St. Cloud Area Planning Organization

Long Range Transportation Plan

Approved and Adopted by APO Policy Board— October 23rd, 2014

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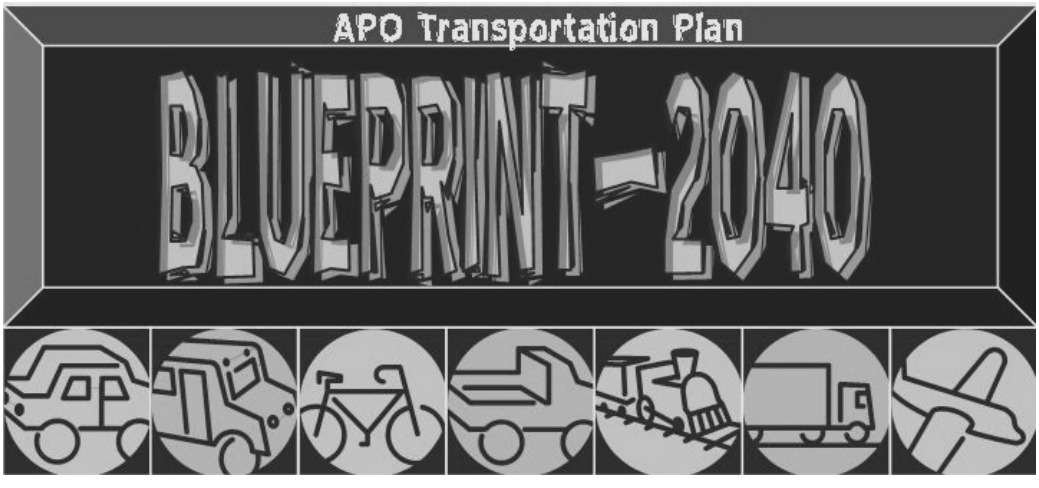

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Chapter 1: Introduction

1.1 Purpose of the Long Range Transportation Plan

The Long Range Transportation Plan, hereafter referred to as 'Plan', is the cornerstone document of metropolitan transportation planning. Transportation legislation lists the development and maintenance of a Plan as a core function of a Metropolitan Planning Organization (MPO). The legislation directs MPOs to develop and update a multimodal Plan for the metropolitan area covering a planning horizon of at least twenty years. The Plan presents a focused approach for regional transportation planning. Goals and objectives are defined for the development of the transportation system. These provide an avenue for transportation policies, projects, and solutions. Components of the Plan include identification of existing regional transportation issues, projections of future transportation demand for regional transportation systems, and long-term, fiscally constrained transportation planning strategies to the year 2040. Cost estimates for future projects are developed and projects are analyzed and prioritized compared to reasonably available funding sources. The Plan is multimodal, and it includes an analysis of the transportation network as a whole with chapters dedicated to roadways, air, transit, freight, and bicycle and pedestrian. Overall, the Plan is a regional document that defines the course for transportation investment over the next 25 years.

1.2 Metropolitan Planning History

Metropolitan Planning Process

Metropolitan transportation planning is the process of examining travel and transportation issues and needs in metropolitan areas. It explores connections between mobility, multi-modal transportation systems, environmental conditions, land use, and safety. It includes a demographic analysis of the community, as well as an examination of travel patterns and trends. The planning process includes an analysis of alternatives to meet projected future demands, and for providing a safe and efficient transportation system that meets mobility while not creating adverse impacts to the environment. In metropolitan areas over 50,000 population, the responsibility for transportation planning lies with the designated MPO. The MPO incorporates the concept of a 3-C planning process: Comprehensive, Cooperative, and Continuing. The Plan specifically incorporates the 3-C planning process because it evaluates all transportation modes (Comprehensive), coordinates with local, state, federal, and private agencies and individuals (Cooperative), and anticipates future needs with a 25 year planning horizon (Continuing).

In addition to conducting the 3-C planning process and maintaining the Plan, MPOs are responsible for carrying out additional provisions of the current federal transportation legislation. These responsibilities include: regional transportation planning involving the public, project selection and alternative evaluation within the planning area, soliciting, prioritizing, and developing a 4-year Transportation Improvement Program, and developing an annual Unified Planning Work Program.

MPO Background and Legislation

MPOs were formed by the passing of the Federal Aid Highway Acts of 1962 and 1973 (Acts). The Acts required an urbanized area with a population of 50,000 or more to carry out the 3-C planning process in

order to be eligible for federal transportation funds. To manage transportation planning, the Act of 1973 required designation of an MPO to oversee the process. MPO's assist local officials in collaboratively deciding how available transportation funds will be best spent in the planning area.

The current surface transportation bill, signed into law on July 6, 2012, is named Moving Ahead for Progress in the 21st Century (MAP-21). MAP-21 addresses the funding of surface transportation programs with over $105 billion for Federal fiscal years 2013 and 2014. MAP-21 builds on the previous three surface transportation bills. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the Transportation Equity Act for the 21st Century (TEA-21), and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (MAP-21) provided landmark surface transportation legislation and continued to emphasize the importance of regional transportation planning. ISTEA increased the profile of transportation's comprehensive value, MPO funding, funding flexibility, and MPO requirements. The subsequent legislation, TEA-21, in 1998 continued to balance investments in highways, transit, intermodal projects and technologies. SAFETEA-LU was signed into law in 2005. It continued a strong emphasis on safety, equity, innovative finance, congestion relief, mobility and productivity, efficiency, environmental stewardship, and environmental streamlining. MAP -21 creates a streamlined and performance-based surface transportation program and builds on many of the highway, transit, bike, and pedestrian programs and policies established in 1991.

1.3 St. Cloud APO Organizational Structure

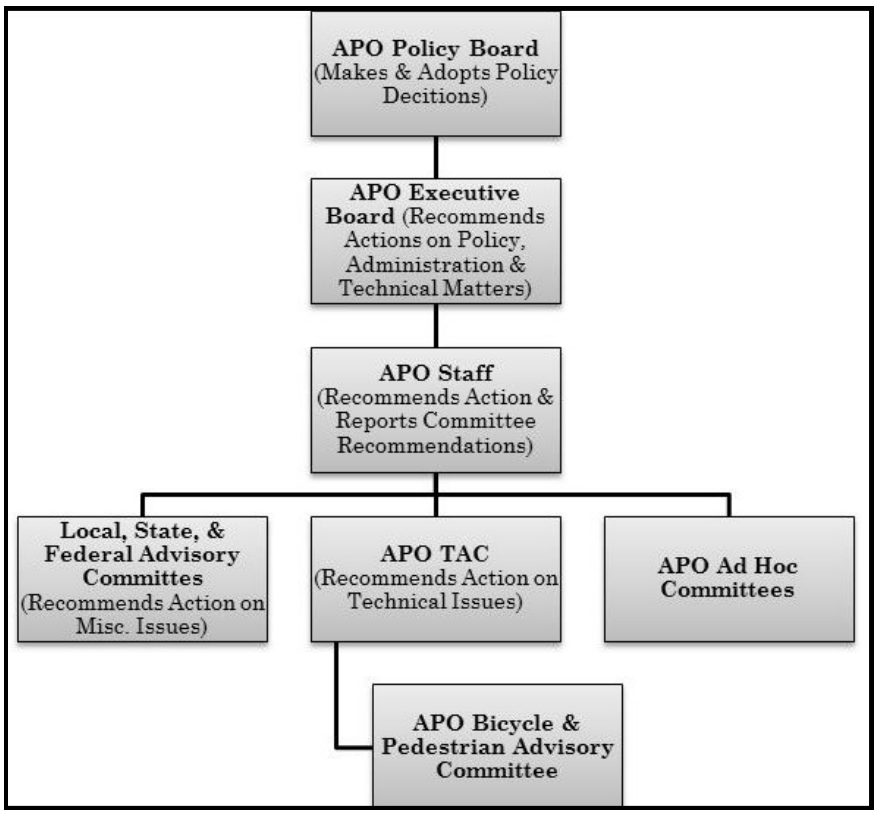
The St. Cloud Area Planning Organization (APO) originated in 1964 with an agreement between St. Cloud Township and the city of St. Cloud to establish a metropolitan development committee. Under the consideration of the transportation planning requirements in the Act of 1962, the committee formalized the St. Cloud Area Planning Organization through a Joint Powers Agreement adopted on May 12, 1966.

The APO is a voluntary association of townships, cities, and counties in the St. Cloud Area. The APO is comprised of the Policy Board, the Executive Board, and the Technical Advisory Board. The APO Policy Board is comprised of 11 local government member jurisdictions, as well as representatives from the Central Minnesota Transportation Alliance and St. Cloud Metro Bus. Local government membership is comprised of three counties (Stearns, Benton, and Sherburne), six cities (St. Cloud, Sartell, Sauk Rapids, St. Augusta, Waite Park, and St. Joseph), and two townships (Haven and LeSauk). Brockway, Minden, Sauk Rapids, St. Wendel, St. Joseph, and Watab Townships as well as the cities of Rockville and St. Stephen are located within the designated APO Planning Boundary, but they do not participate as voting members on the APO Policy Board. The Policy Board is responsible for adopting regional transportation plans, projects and policies. The Policy Board consists of 43 voting members, 36 of which are elected officials from cities, counties, and townships.

The APO organizational structure includes the Policy Board, the Executive Board, the Technical Advisory Committee (TAC), and the Bicycle and Pedestrian Advisory Committee (BPAC). Ad hoc committees are developed for project or study specific advisory purposes. The Executive Board is a

subgroup of the full Policy Board. It is comprised of 13 members with one representative from each member jurisdiction (three from the city of St. Cloud). The Executive Board focuses on administrative matters and makes policy recommendations to the full Policy Board. TAC membership includes 16 area agency engineers, planners, and staff who make technical recommendations to the APO Executive and Policy Boards. The BPAC is a citizen and staff group with an average attendance of 12 individuals. The group meets to discuss bicycle and pedestrian specific goals, objectives, issues, and events. BPAC discussion items are reported to the TAC. All meetings for APO Boards and Committees are open to the public.

Figure 1-1: APO Organizational Structure

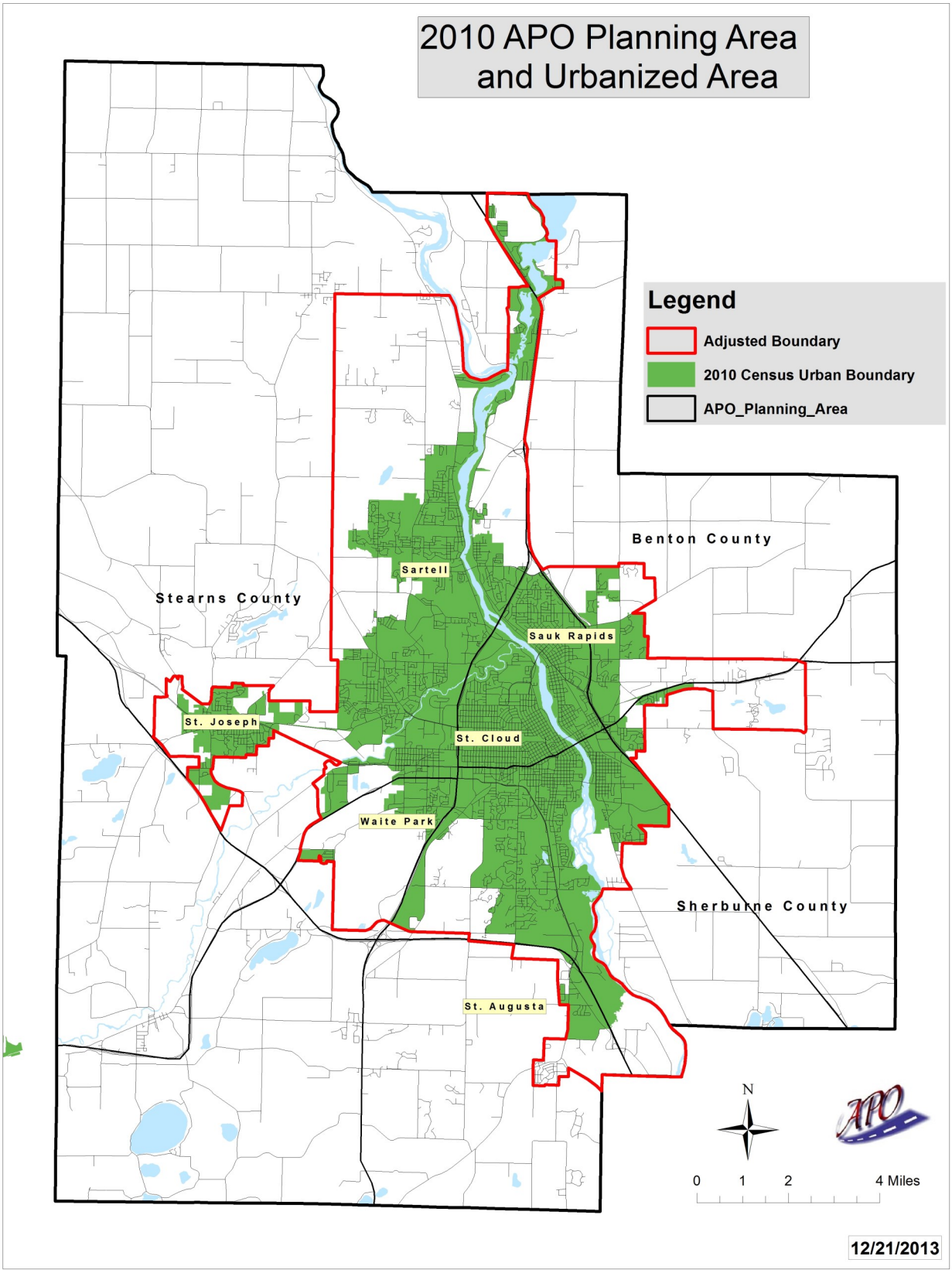


In addition to the board organization structure, the APO is comprised of a current staff of 4 full-time and 1 part-time employee. The mission statement of the APO is as follows: "We, as an advisory body, are committed to coordinate long-range planning, in a fair and mutually beneficial manner, on select issues transcending jurisdictional boundaries, for the betterment of the entire St. Cloud Area. We provide technical assistance to members, and facilitate problem solving through constant, cooperative, intergovernmental communication."

1.4 APO Planning Area

The APO Urbanized Area is designated by the U.S. Census Bureau every decennial census year. Criteria for defining this area include population density and density of development. The APO approves a 20-year Planning Boundary based on expected urbanized growth within that time period. Member jurisdictions include Stearns County, Benton County, Sherburne County, City of St. Cloud, City of Sartell, City of Sauk Rapids, City of St. Augusta, City of Waite Park, and City of St. Joseph, Haven Township, and LeSauk Township. The City of Rockville, City of St. Stephen, Brockway Township, Minden Township, Sauk Rapids Township, St. Wendel Township, St. Joseph Township, and Watab Township are located within the designated APO 20-year Planning Boundary but are not member agencies. The Plan encompasses all jurisdictions within the 20-year Planning Area.

Map 1-1: APO Planning Area and Urbanized Area



1.5 Planning Process

Identifying Stakeholders

Stakeholders for the Plan include agencies, organizations, and persons with a vested interest in the local transportation system. APO member agencies form the center of the stakeholder group. Member participation occurs on the APO Boards and the TAC. The TAC operates as the primary stakeholder group throughout the planning process. Local government and public officials from non-member agencies within the planning area are also important stakeholders for the planning process. Other interested agencies, government or other organizations, and interested citizens also have an opportunity to participate in and add input to the Plan during the planning process. The public involvement process identifies and includes as many area stakeholders as possible.

Figure 1-2: Stakeholder Involvement

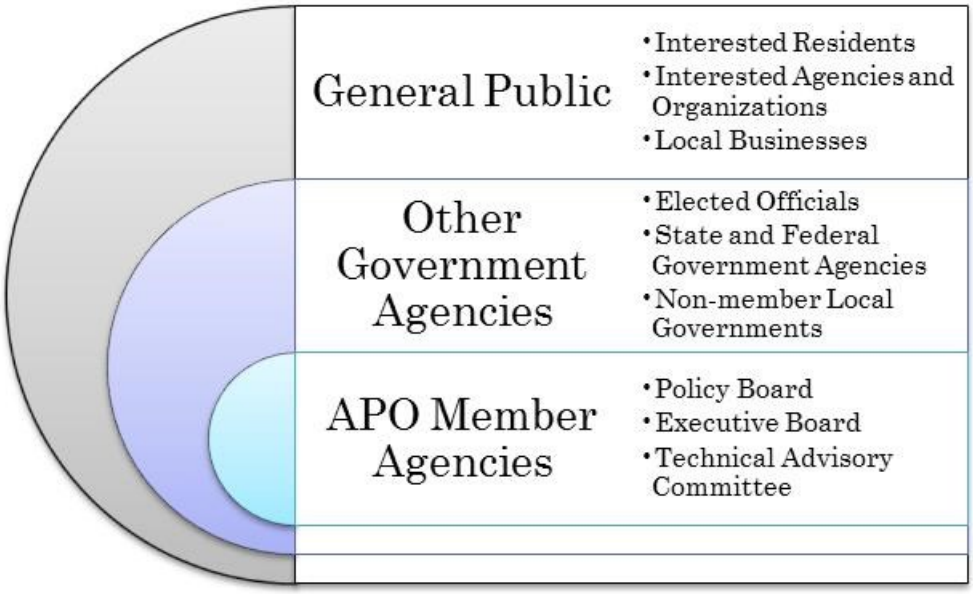


Figure 1-3: Public Participation Elements

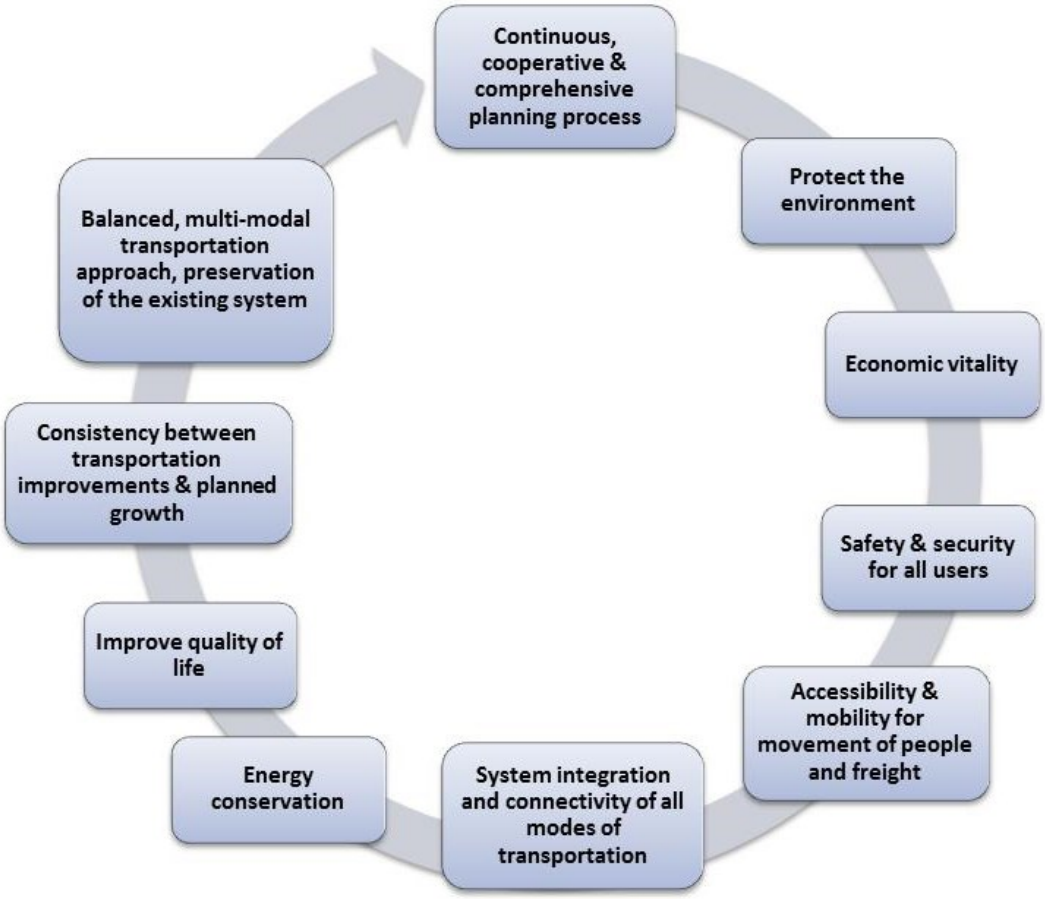
Active public involvement and coordination of multiple agencies and organizations creates a full perspective of existing transportation conditions, goals for improvement, and future actions to direct change. In order to gain input from stakeholders the following strategies were employed: development and update of Plan webpage, online public survey, announcements on APO Facebook Page, email distribution of public meeting information, numerous public meetings at varied locations, TAC meetings at accessible locations, focus groups, and presentations to local government bodies. The Plan follows specific procedures for public participation defined in the APO Public Participation Plan (PPP), updated in 2012. The PPP identifies the 16 specific public participation procedures for the development of the Plan. For example, "Review and incorporate information from other local, state, and federal agency Plans" and "Solicit input on all

aspects of the Plan". It also defines the comment period for the draft Plan as 30-days. Participation techniques also include components defined in federal regulations such as hold public meetings at convenient and accessible locations, employ visualization techniques, and make information available in electronically accessible formats. In addition, public participation procedures for the development of the Plan follow the APO Title VI and Non-Discrimination Plan/Limited English Proficiency Plan in compliance with Title VI of the Civil Rights Act of 1964, the Americans with Disabilities Act of 1990, and other provisions for non-discrimination in activities receiving federal financial assistance. Chapter 3: Qualitative Public Input is a detailed report of stakeholder input. Please see Appendix A for the complete timeline of public participation activities.

Plan Chapters

Each aspect of Plan development is addressed within a chapter of this document. Together these chapters comprise an integrated multi-modal 20+ year transportation plan for the St. Cloud metropolitan area. Each modal chapter element of the Plan includes a brief description on how it ties into specific policies and strategies of the Plan, a narrative describing the regulatory basis of the element, how it relates to other Plan elements, and how specific recommendations within the Plan were derived.

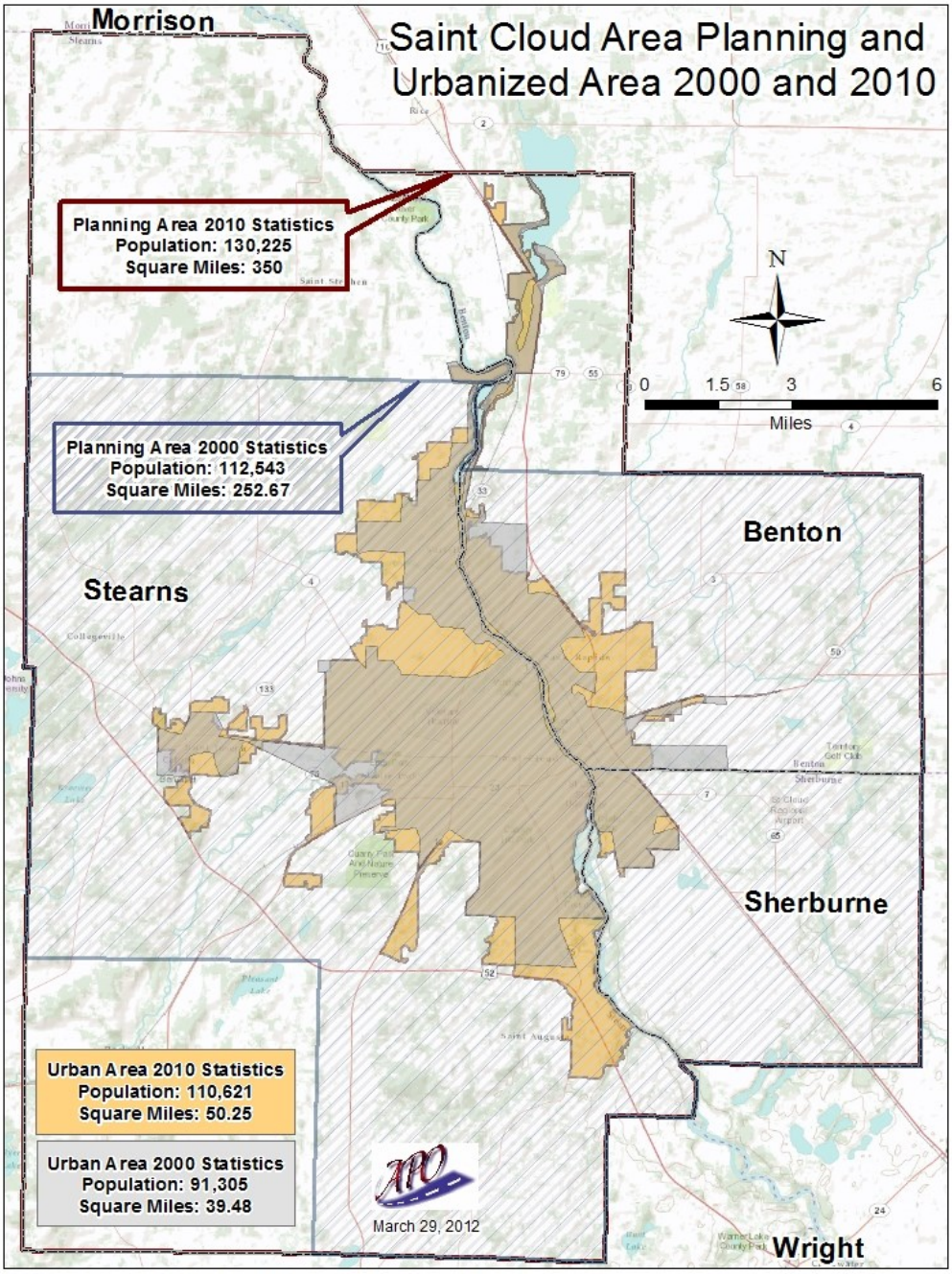
Figure 1-4: General Focus Areas of the Plan



2.1 Urbanized Area (UZA).

Urbanized Area is a term used by both the U.S. Census Bureau and Federal Transportation Legislation. From a transportation perspective, the UZA is a statistical geographic area with a population of 50,000 or more and an overall population density of at least 1,000 people per square mile. The urban area can be adjusted by state and local officials under federal law, resulting in the Federal Aid Urban Area (FAUA). The UZA together with Urban Clusters (2,500 to 49,999 people) produces the 'Urban Area'.

Map 2-1: APO Planning Area and Urbanized Area growth (2000 vs. 2010)



2.2 Metropolitan Statistical Area (MSA)

According to the U.S. Census Bureau, metropolitan and micropolitan statistical areas are geographic entities defined by the US Office of Management and Budget (OMB) for use by Federal agencies in collecting, tabulating and publishing federal statistics. A MSA contains a core urban area of 50,000 or more population (i.e. St. Cloud Metro Area) and includes one or more counties (Benton, Stearns and Sherburne) containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting to work) with the urban core.

2.3 Minnesota Metropolitan Planning Organizations

There are eight MPOs that are entirely or partially within the state of MN, they include:

- *Duluth - Superior Metropolitan Interstate Council (MIC)*
- *Fargo - Moorhead Council of Governments (FM COG)*
- *Grand Forks - East Grand Forks Metropolitan Planning Organization (The Forks MPO)*
- *La Crosse Area Planning Committee (LAPC)*
- *Twin Cities - Metropolitan Council (MET Council)*
- *Rochester Olmsted Council of Governments (ROCOG)*
- *St. Cloud Area Planning Organization (APO)*
- *Mankato/North Mankato Area Planning Organization (added in 2012)*

Map 2-2: Minnesota MPO's

Figure 2-1 shows that St. Cloud is the fastest growing metro area entirely in Minnesota.

Figure 2-1: Population Comparison of the Minnesota MPO's (2000 vs. 2010)

Census Defined Urbanized Area	2000 Census	2010 Census	Net Growth	% Change
Fargo-Moorhead	142,477	176,676	34,199	24.0%
St. Cloud	91,305	110,621	19,316	21.2%
Rochester	91,271	107,677	16,406	18.0%
La Crosse-La Crescent	89,966	100,868	10,902	12.1%
Minneapolis-St. Paul	2,388,593	2,650,890	262,297	11.0%
Grand Forks-East Grand Forks	56,573	61,270	4,697	8.3%
Duluth-Superior	118,265	120,378	2,113	1.8%
Mankato	n/a	57,584	n/a	n/a
State Totals	2,978,450	3,385,964	407,514	13.7%

2.4 Community Profile

The following pages summarize regional demographic, economic and commuter data. These trends help provide a basis for growth patterns and behavior which help enable planners to better project future needs in the area. Spatial analysis using maps is also helpful in designating trends as it moves beyond basic numeric analysis. In the following sections we will explore local trends through data, maps and brief analysis to better understand the St. Cloud Metro.

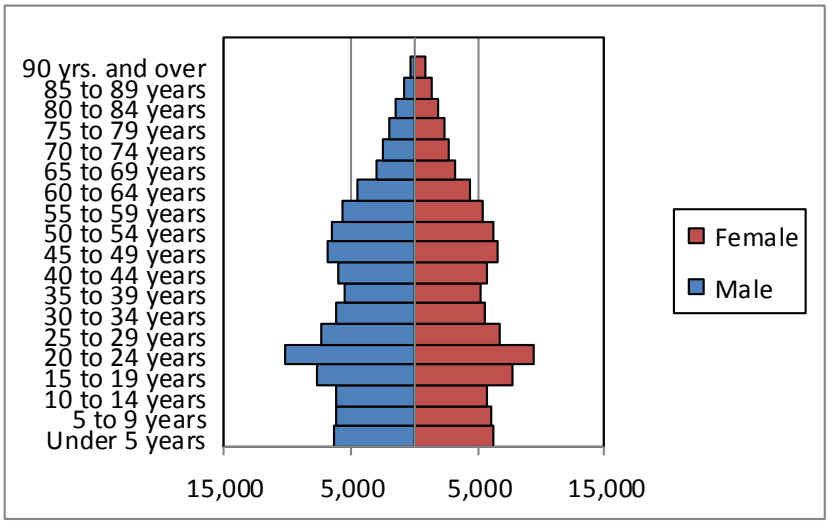
2.5 Demographic Trends

Much like the rest of the country, the St. Cloud area is rapidly urbanizing. An increasing amount of young people are leaving rural areas for metro areas seeking a higher education, employment opportunities and greater access to community services. A growing trend is also that retiring baby-boomers are seeking to move off the farm into smaller properties or apartments in metro areas with greater access to activities, entertainment and health care services. This is the beginning of a growing trend being reflected in the St. Cloud Area jurisdictions between 2000 -2010 with many of the outlying townships losing populations and the cities closer to the core continuing to gain population. The remainder of this chapter will focus on a variety of demographic trends in the St. Cloud Area featuring numerous graphs and maps.

Figure 2-2: St. Cloud Area Jurisdiction Population Comparison (2000 vs. 2010)

Jurisdiction	2000 Pop.	2010 Pop.	% Change
Brockway Township	2,551	2,702	5.9%
Haven Twshp.	2,024	1,986	-1.9%
LeSauk Twshp.	1,880	1,766	-6.1%
Minden Twshp.	1,790	1,664	-7.0%
Rockville	1,758	2,448	39.2%
Sartell	9,641	15,876	64.7%
Sauk Rapids	10,213	12,773	25.1%
Sauk Rapids Twshp.	723	584	-19.2%
St. Augusta	3,065	3,317	8.2%
St. Cloud	59,107	65,842	11.4%
St. Joseph	4,681	6,534	39.6%
St. Joseph Twshp	2,449	1,924	-21.4%
St. Stephen	860	851	-1.0%
St. Wendel Twshp	2,313	2,150	-7.0%
Waite Park	6,568	6,715	2.2%
Watab Twshp	2,920	3,093	5.9%
Total	112,543	130,225	15.7%

Figure 2-3: Population Pyramid (2010 Census)



Age (2000 vs. 2010)

The St. Cloud Area is aging much like the rest of the nation, largely due to aging baby-boomers (the largest age cohort), advances in medical technology, and people choosing to have less children, which is also reflected in a declining 'persons per household' statistic across the nation. In the St. Cloud Metro in particular you can see a rapidly aging population in the fringe townships and communities, as many young adults and families choose to move closer to the core areas for greater education and employment opportunities. Closer to Downtown St. Cloud, St. Cloud State University Campus, and Southeast St. Cloud the population has stayed the same or is now younger due largely to the student population and younger immigrant families with children moving into the area. St. Cloud in particular with S.C.S.U.'s enrollment around 16,000 students representing nearly 25% of St. Cloud's population. With nearly 25,000 college students enrolled in our numerous area universities, accounting for nearly 25% of the metro's population, we see that the median age of the metro is far less than both the State and the Country.

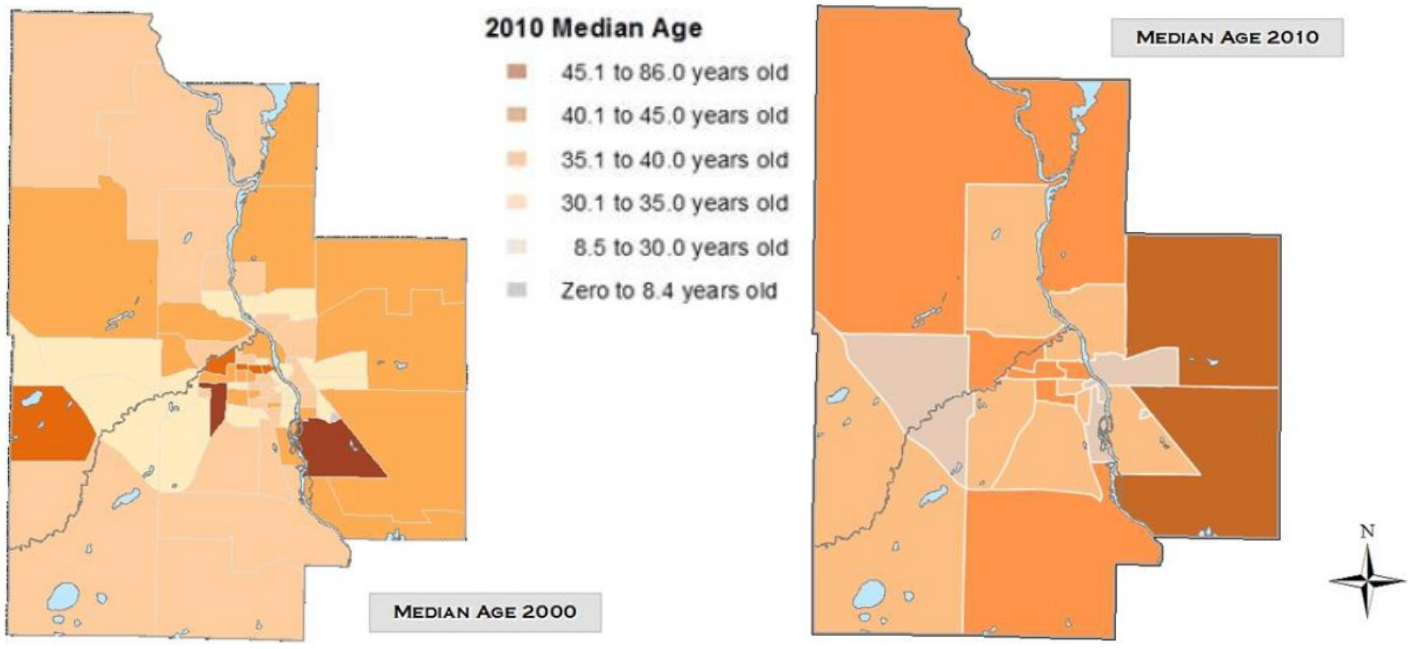
Figure 2-4: Median Age by Jurisdiction

	2000 Median Age	2010 Median Age
Brockway Township	34	40.1
Haven Township	38.2	44.8
LeSauk Township	36.8	42.1
Minden Township	38.1	42.8
Rockville*	35.8	40.5
Sartell	30.9	32.7
Sauk Rapids	31	33.7
Sauk Rapids Township	36.1	49.2
St. Augusta	34.1	36.6
St. Cloud	28.2	28.8
St. Joseph	21.9	22.2
St. Joseph Township	32.8	41.4
St. Stephen	30.9	36.4
St. Wendel Township	36	45.2
Waite Park	29.5	34.1
Watab Township	35.6	41.7
Average APO Planning Area Median Age	33.1	38.3

Figure 2-5: Median Age Comparison Chart

2008-2012 ACS 5 yr. Estimates			
Median Age	U.S.	Minnesota	St. Cloud Metro
	Estimate	Estimate	Estimate
Total:	37.2	37.4	33.5
Male	35.8	36.2	32.8
Female	38.5	38.5	34.5

Map 2-3, 2-4: St. Cloud Area Median Age (2000 vs. 2010)



Race (2000 vs. 2010)

Much like the rest of Minnesota, and the United States as a whole, the St. Cloud area is becoming more diverse. The most rapid growth in the minority population is from the Somali-American community. This trend was the case for a couple of decades in the Twin Cities and now increasingly so in out-state Minnesota. The minority population as a whole has been growing throughout the St. Cloud Metro, but small concentrations have increased in Waite Park, west St. Cloud, and North St. Cloud in addition to the SCSU Campus area, and east St. Cloud.

Figure 2-6: Demographic Comparison Chart (2010)

2010 Census: Race	U.S.	MN	StCloudMetro
White alone	72.41%	85.30%	92.34%
Black or African American alone	12.61%	5.17%	2.86%
American Indian and Alaska Native alone	0.95%	1.15%	0.33%
Asian alone	4.75%	4.04%	1.80%
Native Hawaiian and Other Pacific Islander alone	0.17%	0.04%	0.03%
Some Other Race alone	6.19%	1.94%	1.07%
Two or More Races	2.92%	2.36%	1.56%
Hispanic or Latino	16.35%	4.72%	1.27%

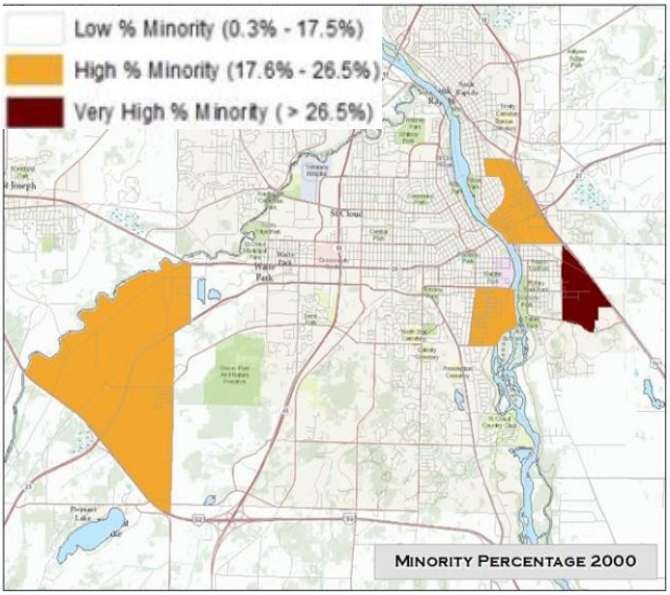
Methodology

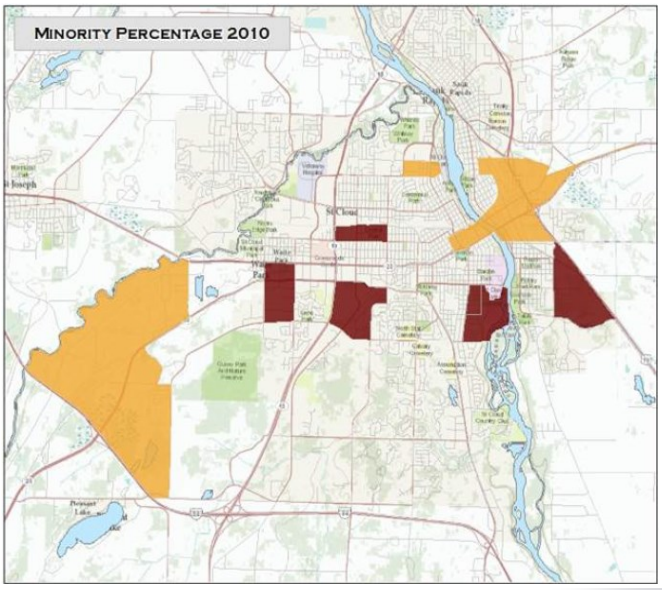
In order to identify concentrations of minority and low-income populations, data on race/ethnicity, median household income, and poverty were examined for census block groups within the study area. This data was compared with data on race/ethnicity, median household income, and poverty for the entire study area. For purposes of this analysis, the study area was defined as the aggregate of the census blocks identified within or partially within the study area. The first step to determine areas of potential impact, involved creating thresholds equal to the percentages of each variable for the whole planning area. The planning area is equal to the sum of the block groups identified within, or partially within the study area. The thresholds would then equal the total number exhibiting the characteristic of concern divided by the total.

Figure 2-7: % Minority Population by Jurisdiction (2000 vs. 2010)

	2000	% Minority	2010	%Minority
Brockway Township	20	0.8%	88	3.3%
Haven Township	48	2.4%	47	2.4%
LeSauk Township	55	2.9%	108	6.1%
Minden Township	25	1.4%	35	2.1%
Rockville*	21	1.2%	254	10.4%
Sartell	308	3.2%	843	5.3%
Sauk Rapids	870	7.0%	795	6.2%
Sauk Rapids Township	14	1.9%	18	3.1%
St. Augusta	48	1.6%	97	2.9%
St. Cloud	5250	8.9%	10988	16.7%
St. Joseph	190	4.1%	366	5.9%
St. Joseph Township	219	8.9%	298	15.5%
St. Stephen	17	2.0%	14	1.6%
St. Wendel Township	34	1.5%	29	1.3%
Waite Park	521	7.9%	748	11.1%
Watab Township	44	1.5%	93	3.0%
APO Planning Area Total	7684	6.8%	14821	11.4%

Map 2-5,2-6: St. Cloud Area % Minority Population (2000 vs. 2010)





Poverty (2000 vs. 2010)

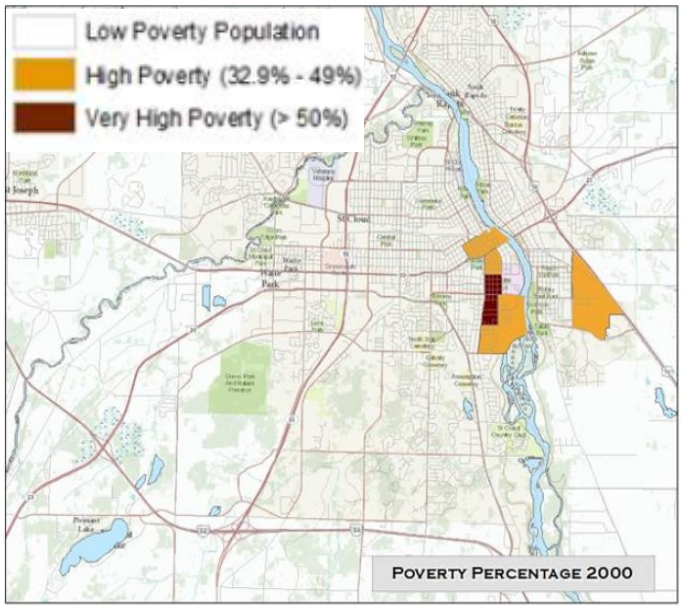
Poverty level data are also significant in regional planning. While poverty rates in the St. Cloud Metro remain below national levels, poverty rates have increased steadily throughout the St. Cloud Metro area. Due in large part to the 2010 Census being taken at the height of the recession, the effects can be seen widely dispersed increasing the overall poverty rate in the St. Cloud Metro from 10.8% to 14.8%. Poverty continues to be concentrated around the SCSU campus area and the east-side, areas with aging infrastructure and more affordable housing, but increasingly seen on the west-side as well.

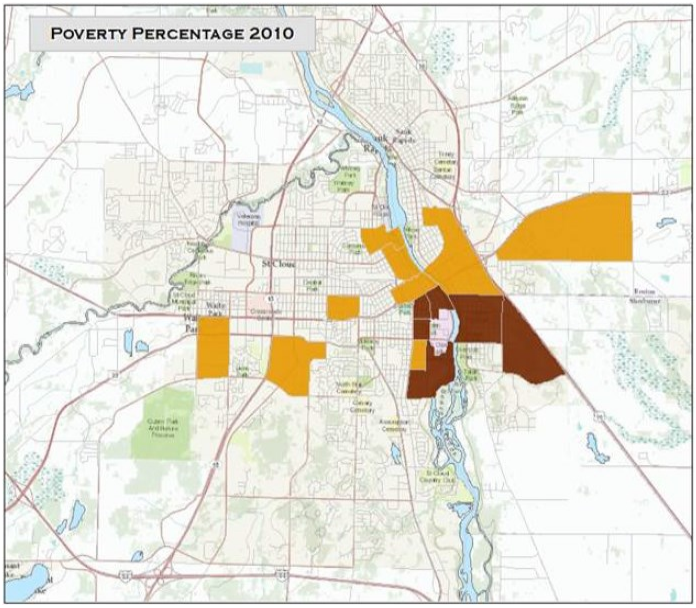
Figure 2-8: St. Cloud Area % of Households in Poverty 2000 vs. 2010

	2000 Poverty	Poverty %	2010 Poverty	Poverty %
Brockway Township	89	3.5%	259	9.6%
Haven Township	47	2.3%	83	4.2%
LeSauk Township	26	1.4%	34	1.9%
Minden Township	72	4.0%	128	7.7%
Rockville*	35	2.0%	144	5.9%
Sartell	318	3.3%	699	4.4%
Sauk Rapids	521	5.1%	984	7.7%
Sauk Rapids Township	18	2.5%	13	2.2%
St. Augusta	101	3.3%	166	5.0%
St. Cloud	8748	14.8%	14749	22.4%
St. Joseph	1147	24.5%	549	8.4%
St. Joseph Township	154	6.3%	185	9.6%
St. Stephen	25	2.9%	23	2.7%
St. Wendel Township	51	2.2%	52	2.4%
Waite Park	644	9.8%	1182	17.6%
Watab Township	126	4.3%	238	7.7%
APO Planning Area Total	12121	10.8%	19486	14.7%

**Poverty: The Census Bureau uses a set of income thresholds that vary by family size and composition to determine who is in poverty. If a family's total income is less than the family's threshold (Average $17,373 in APO Planning Area (2010), then that family and every individual in it is considered in poverty.*

Map 2-7, 2-8: St. Cloud Area % Population Below Poverty Level (2000 vs. 2010)





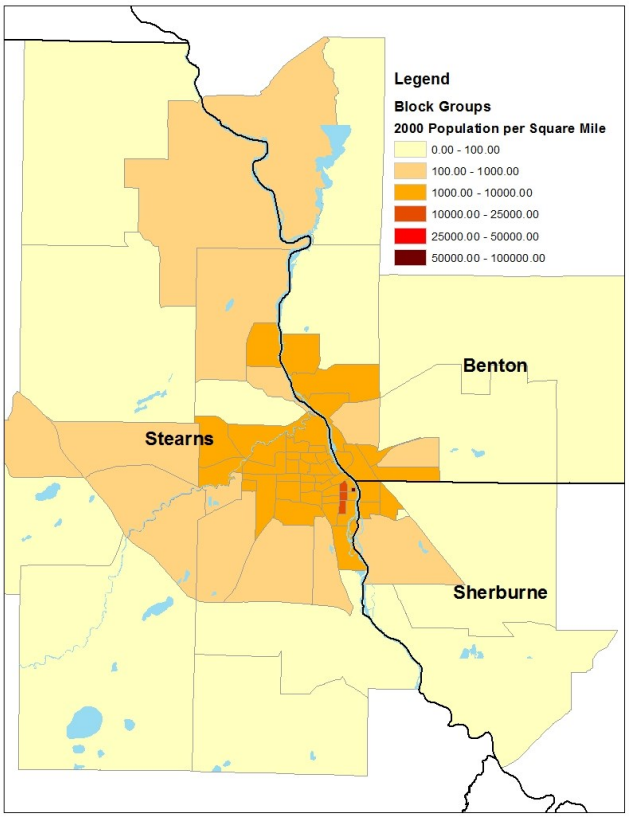
Housing and Population Density

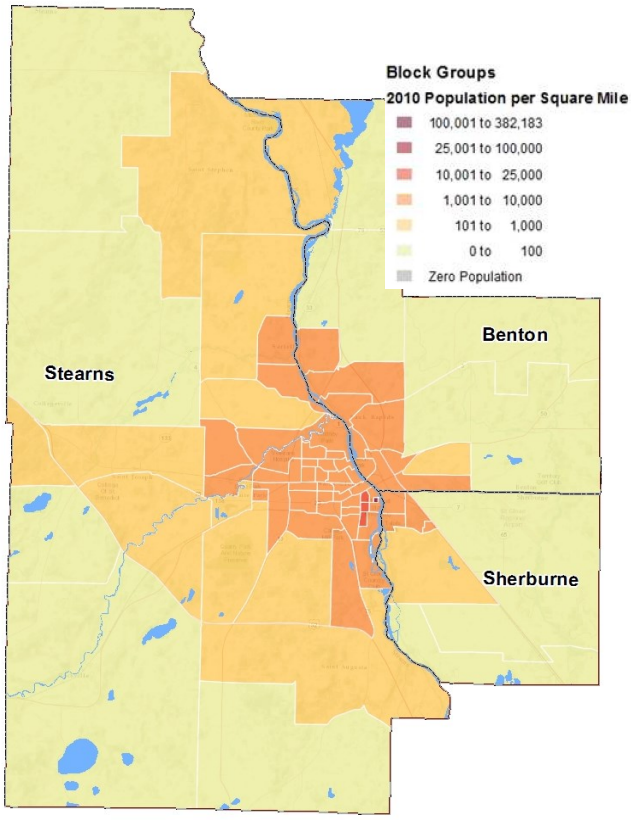
While new home construction soared in the area through the middle of the 2000's, it abruptly declined in the 2nd half of the 2000's. Only in 2013 have new home starts begun to grow more significantly again as many foreclosures and vacancies have gradually been re-sold. Following a national long-term trend, 'persons per household' has continued to decline, which in small part has kept population density levels relatively and consistently low in the St. Cloud Metro as the single family home continues to be the preferred housing option in the area. south Sartell and south St. Cloud have seen continued growth which is represented in the density maps. Over the past few years in part due to the recession and changing economic and demographic trends multi-family housing and housing in general closer to the 'core' neighborhood of St. Cloud has been increasingly in demand.

Figure 2-9: Area Housing Units (2000 vs. 2010)

Total Housing Units	2000	2010	% Change
Brockway Twshp.	885	1,023	15.6%
Haven Twshp.	675	733	8.6%
LeSauk Twshp.	643	706	9.8%
Minden Twshp.	636	678	6.6%
Rockville	620	1,041	67.9%
Sartell	3,531	6,123	73.4%
Sauk Rapids	4,017	5,219	29.9%
Sauk Rapids Twshp.	274	273	-0.4%
St. Augusta	1,000	1,184	18.4%
St. Cloud	23,249	27,338	17.6%
St. Joseph	1,147	1,912	66.7%
St. Joseph Twshp.	876	740	-15.5%
St. Stephen	294	316	7.5%
St. Wendel Twshp.	747	797	6.7%
Waite Park	3,065	3,424	11.7%
Watab Twshp.	1,088	1,302	19.7%
Total Housing Units	42,747	52,809	23.5%

Map 2-9, 2-10: St. Cloud Area Population Density (2000 vs. 2010)





Economic Indicators

As of Nov. 2013 the St. Cloud Metro unemployment rate was 4.0% which was tied for 27th lowest among all metros. Minnesota at that time was at 4.6%, and the U.S. as a whole was at 7.3%. The median household income of the St. Cloud Metro has remained higher than both Minnesota and the United States totals, however that figure greatly varies throughout the area by jurisdiction. While the % of adults with a High School diploma in the area is comparable the % of persons 25 yrs. or over with a Bachelor degree in the St. Cloud Metro 23.4%, does lag behind both Minnesota 32.2%, and the United States 28.5% from the A.C.S. 08'-12' -5 yr. est..

Figure 2-10: St. Cloud Metro Area Household Types

St. Cloud Metro Area Household Type		
2006-2010 ACS 5 yr. Est.	Households	% of Total
Total:	71,351	100.00%
Family households:	46,838	65.64%
Married-couple family	38,257	53.62%
Other family:	8,581	12.03%
Male householder, no wife present	3,067	4.30%
Female householder, no husband present	5,514	7.73%
Nonfamily households:	24,513	34.36%
Householder living alone	17,433	24.43%
Householder not living alone	7,080	9.92%

Figure 2-11: St. Cloud Metro Area Educational Attainment

St. Cloud Metro Educational Attainment (Pop. 25+ Yrs. Old)		
2008-2012 ACS 5 Yr. Est.	Estimate	% of Total
Total:	116,822	100.00%
No schooling completed	823	0.70%
K-12, No high school diploma	10,063	8.61%
Regular high school diploma	33,643	28.80%
GED or alternative credential	3,490	2.99%
Some college, less than 1 year	8,560	7.33%
Some college, 1 or more years, no degree	19,767	16.92%
Associate's degree	13,196	11.30%
Bachelor's degree	18,659	15.97%
Master's degree	5,835	4.99%
Professional school degree	1,713	1.47%
Doctorate degree	1,073	0.92%

Figure 2-12: Household Income Comparisons (2000 vs. 2010)

Median Household Income		
A.C.S. 1 yr. Est.	2000	2010
United States	$41,994	$50,046
Minnesota	$47,033	$55,459
St. Cloud Area	$51,727	$61,574

Figure 2-13: St. Cloud Metro Area Household Income (2000 vs. 2010)

	2000 Median Income	2010 Median Income	% Increase
Brockway Township	$54,375	$63,342	16.5%
Haven Township	$63,906	$78,229	22.4%
LeSauk Township	$60,750	$68,036	12.0%
Minden Township	$58,854	$68,194	15.9%
Rockville*	$53,800	$58,125	8.0%
Sartell	$52,531	$65,513	24.7%
Sauk Rapids	$45,857	$56,479	23.2%
Sauk Rapids Township	$61,161	$70,972	16.0%
St. Augusta	$57,292	$67,978	18.7%
St. Cloud	$37,346	$39,782	6.5%
St. Joseph	$38,938	$59,680	53.3%
St. Joseph Township	$45,396	$46,111	1.6%
St. Stephen	$55,078	$65,000	18.0%
St. Wendel Township	$57,946	$76,528	32.1%
Waite Park	$33,803	$38,031	12.5%
Watab Township	$50,604	$63,176	24.8%
APO Planning Area Median Household Income	$51,727	$61,574	19.0%

Employment

The St. Cloud region weathered the recession comparatively well much like the rest of Minnesota due to a diverse economic base and well educated workforce. The fastest growing industry in the region is Health Care. Most notably CentraCare added a large regional health care campus in Sartell along State Highway 15. The decline in Manufacturing and Construction in the region mostly reflect continuing national trends.

Figure 2-14: St. Cloud Area Top Employers (2008, St. Cloud Chamber of Commerce**)**

Top Employers in the St. Cloud Area (2008)		
Employer	Industry	Employees
St. Cloud Hospital/CentraCare Health Clinic	Health Care	6,393
Coborn's Inc.	Grocery/Distribution	2,062
State of MN	Govt. Office	2,055
Electrolux Home Products	Appliances	1,472
St. Cloud Area School District # 742	Education	1,580
Veterans Affairs Medical Center	Health Care	1,242
Gold'n Plump	Poultry Processing	852
Cold Spring Granite Comp.	Mining/Excavation	790
St. John's University	Higher Education	762
City of St. Cloud	Municipal Gov't	660

Figure 2-15: St. Cloud Area Jobs by Industrial Sector (2005 vs. 2010)

Jobs by NAICS Industry Sector	2005		2010	
U.S. Census Bureau, OnTheMap App.	Count	Share	Count	Share
Agriculture, Forestry, Fishing and Hunting	161	0.26%	180	0.26%
Mining, Quarrying, and Oil and Gas Extraction	106	0.17%	71	0.10%
Utilities	2	0.00%	9	0.01%
Construction	2,917	4.76%	2,633	3.74%
Manufacturing	10,975	17.92%	8,731	12.40%
Wholesale Trade	4,112	6.71%	3,308	4.70%
Retail Trade	8,172	13.34%	8,377	11.90%
Transportation and Warehousing	2,144	3.50%	2,464	3.50%
Information	1,068	1.74%	1,842	2.62%
Finance and Insurance	1,837	3.00%	2,225	3.16%
Real Estate and Rental and Leasing	608	0.99%	812	1.15%
Professional, Scientific, and Tech. Services	2,178	3.56%	2,437	3.46%
Management of Companies and Enterprises	498	0.81%	666	0.95%
Admin. & Supp., Waste Mgmt. & Remediation	3,019	4.93%	3,920	5.57%
Educational Services	5,434	8.87%	6,826	9.69%
Health Care and Social Assistance	6,354	10.38%	14,744	20.94%
Arts, Entertainment, and Recreation	724	1.18%	1,084	1.54%
Accommodation and Food Services	5,360	8.75%	4,722	6.71%
Other Services (excluding Public Admin.)	3,016	4.92%	2,405	3.42%
Public Administration	2,554	4.17%	2,964	4.21%

Work Commute

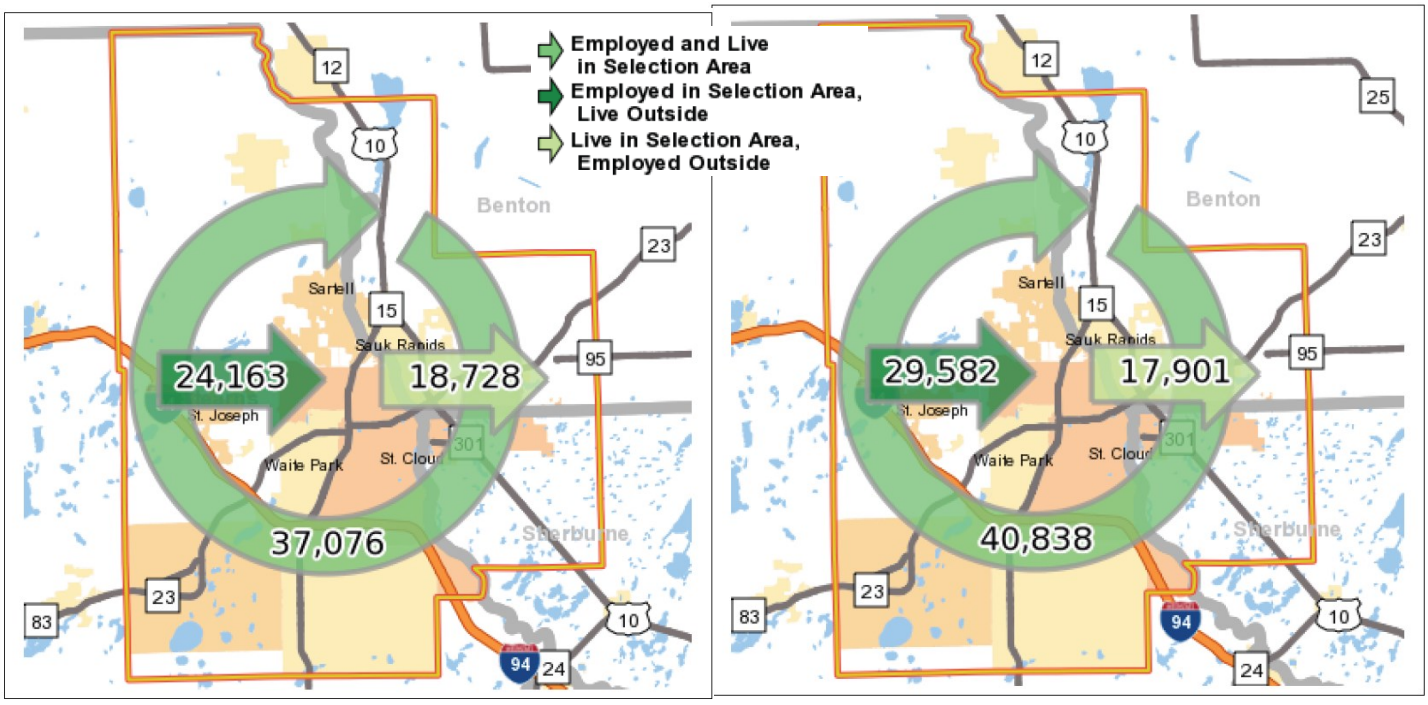
The St. Cloud Planning Area is a regional hub for jobs that is well-connected by Interstate and several major highways going in all directions to other regional hubs including Willmar, Brainerd, Alexandria, and of course the Twin Cities. This has had the effect of many long-distance commutes both in and out of the area for jobs. The following data and charts on this page and the next through Figure 2-20 were collected by loading the APO Planning Boundary GIS Shapefile onto the U.S. Census LED On-The-Map online tool. The Inflow/Outflow data is a good measurement tool of identifying commuter trends of both those that live and work in the area. There are 24,163 employees that commute in from outside the area vs. 18,728 residents that commute outside the area for work, while 37,076 people both live and work in the area.

Figure 2-16: Inflow/Outflow (2005 vs. 2010)

St. Cloud Area Planning Region Inflow/Outflow Job counts	2005		2010	
	Count	Share	Count	Share
Employed in the area	61,239	100.00%	70,420	100.00%
Employed in the area but Living Outside	24,163	39.50%	29,582	42.00%
Employed and Living in the area	37,076	60.50%	40,838	58.00%
Living in the area	55,804	100.00%	58,739	100.00%
Living in the area but employed outside	18,728	33.50%	17,901	30.50%

Map 2-11,2-12: St. Cloud Area Commuter Inflow/Outflow (2005 vs. 2010)

2005 **2010**



Work Commute continued (2011)

The following 4 charts compare both distances and destination (by county) for commuters traveling within, to, or from the St. Cloud Planning Area from home to work. While the majority of residents within the St. Cloud Planning Area enjoy a short commute less than 10 miles, 18.5% have a commute over 50 miles, mostly to the Twin Cities Metro Area. Along with the many benefits from having easy access to major highways and being relatively close to a major metropolitan area come the negative effects of sprawl causing people to spend more time in traffic and less time with their families or for recreational opportunities. It also leads to a greater amount of carbon to be emitted to the environment.

Figure 2-17

Distance to Jobs of Residents within the St. Cloud Planning Area		
2011	Count	Share
Total All Jobs	58,887	100.0%
Less than 10 miles	38,733	65.8%
10 to 24 miles	5,276	9.0%
25 to 50 miles	3,965	6.7%
Greater than 50 miles	10,913	18.5%

Figure 2-18

Distance to jobs of Employees within the St. Cloud Planning Area		
2011	Count	Share
Total All Jobs	71,008	100.0%
Less than 10 miles	39,268	55.3%
10 to 24 miles	13,728	19.3%
25 to 50 miles	9,012	12.7%
Greater than 50 miles	9,000	12.7%

Of people that live within the St. Cloud Planning Area, 58.3% of them are employed within Stearns county, by far the largest share. This helps create relatively short commute times for the area, however 8.9% of the area commuters travel to Hennepin County and roughly 15% to the Twin Cities Metro, all of which would create commutes over 50 miles, often taking more than an hour. This of course is largely a side-effect of having easy access to Interstate 94 and U.S. Highway 10. Additionally, 12.7% of those commuting to jobs within the St. Cloud Planning Area are commuting more than 50 miles.

Work/Home Destinations by County (2010)

Figure 2-19

Jobs Counts by Counties Where Workers are Employed who Live in the St. Cloud Planning Area		
	Count	Share
Stearns County, MN	34,354	58.3%
Benton County, MN	8,205	13.9%
Hennepin County, MN	5,216	8.9%
Sherburne County, MN	2,237	3.8%
Ramsey County, MN	1,605	2.7%
Wright County, MN	1,069	1.8%
Anoka County, MN	742	1.3%
Morrison County, MN	642	1.1%
Douglas County, MN	534	0.9%
Kandiyohi County, MN	452	0.8%
All Other Locations	3,831	6.5%
Total All Jobs	**58,887**	**100.0%**

Figure 2-20

Jobs Counts by Counties Where Workers Live who are Employed in the St. Cloud Planning Area		
	Count	Share
Stearns County, MN	36,928	52.0%
Benton County, MN	11,647	16.4%
Sherburne County, MN	4,866	6.9%
Morrison County, MN	2,552	3.6%
Wright County, MN	2,507	3.5%
Hennepin County, MN	1,660	2.3%
Mille Lacs County, MN	828	1.2%
Crow Wing County, MN	742	1.0%
Anoka County, MN	685	1.0%
Ramsey County, MN	612	0.9%
All Other Locations	7,981	11.2%
Total All Jobs	**71,008**	**100.0%**

Mode Choice of Commuters

The following graphics cite American Community Survey data which is collected at the St. Cloud Metro Area level as defined as the U.S. Census Bureau so results will vary slightly from the previous page and St. Cloud Planning Area data. In these results we see that the vast majority of commuters still choose to drive alone, this is the case nationally, with few exceptions and throughout Minnesota both rural and urban. Part of the job of the APO is to help accommodate commuters of all modes to have safe and efficient routes available to them throughout the metro.

Figure 2-21: Comparison Table of Commuter Choices (2008-2012 5 Yr. Avg.)

Mode Choice of Commuters	% of Total			
2008-2012 ACS 5 yr. Est.	U.S.	S.C. Metro	Minnesota	Twin Cities
Car, truck, or van:	86.17%	87.82%	86.95%	86.54%
Drove alone	76.14%	79.16%	77.81%	78.00%
Carpooled:	10.03%	8.66%	9.14%	8.55%
Public transportation (excluding taxicab):	4.98%	1.41%	3.46%	4.88%
Bicycle	0.56%	0.46%	0.76%	0.90%
Walked	2.82%	3.23%	2.85%	2.20%
Other means	1.20%	0.45%	0.83%	0.76%
Worked at home	4.27%	6.42%	5.15%	4.72%
Total:	100.00%	100.00%	100.00%	100.00%

Commute Times

The following graphic expands upon the previous page with more information on average commute times for the St. Cloud Metro but also with more context comparing the area to Minnesota as a whole. With over half the total commuters within Minnesota commuting to/from the Twin Cities, many from outer-ring suburbs, along with higher traffic volumes, inflates the longer commute times. The St. Cloud Metro Area does compare favorably with a greater percent of commuters with a travel time less than 20 minutes.

Figure 2-22: Comparison Table of Commute Times (2008-2012 5 Yr. Avg.)

ACS 2008-2012 5 yr. estimates (workers 16 and over who did not work from home)

Minnesota			St. Cloud Metro Area	
	Commuters	% of total	Commuters	% of total
Less than 5 minutes	110,838	4.33%	4,811	5.21%
5 to 9 minutes	330,757	12.92%	14,626	15.85%
10 to 14 minutes	393,512	15.38%	18,003	19.51%
15 to 19 minutes	400,699	15.66%	17,270	18.71%
20 to 24 minutes	383,511	14.99%	12,222	13.24%
25 to 29 minutes	178,006	6.96%	4,914	5.32%
30 to 34 minutes	313,425	12.25%	7,558	8.19%
35 to 39 minutes	70,389	2.75%	1,713	1.86%
40 to 44 minutes	88,711	3.47%	1,850	2.00%
45 to 59 minutes	157,383	6.15%	3,594	3.89%
60 to 89 minutes	90,589	3.54%	3,310	3.59%
90 or more minutes	41,271	1.61%	2,413	2.61%
Total Commuters	2,559,091		92,284	

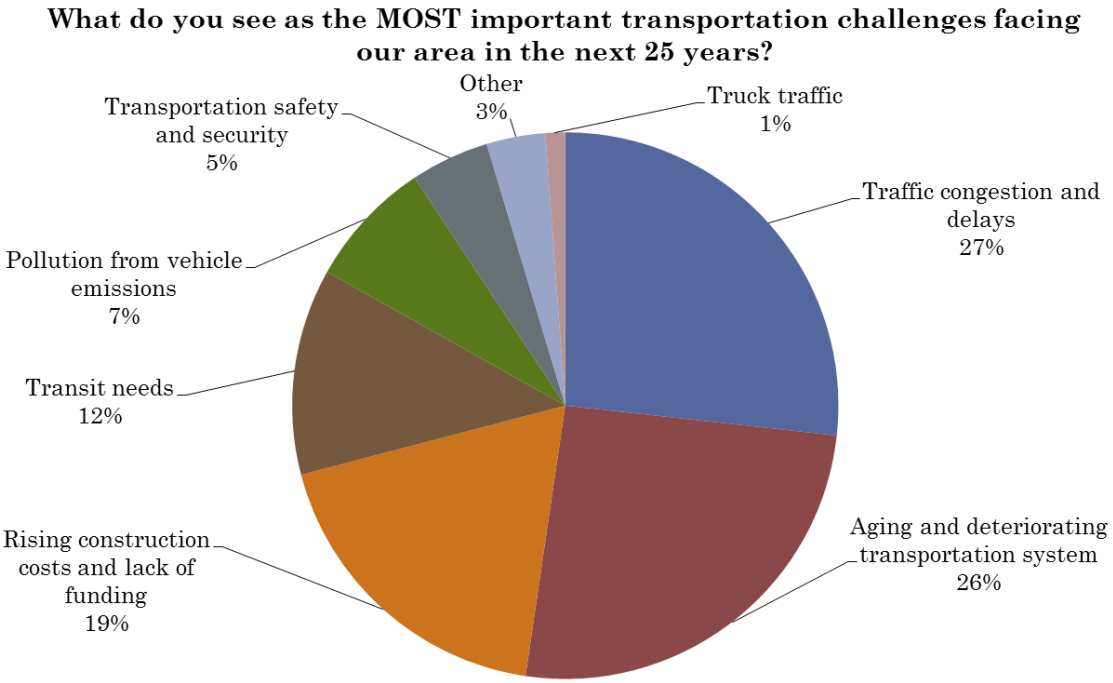
3.1 Summary of Public Involvement Efforts

The public participation effort pursued meaningful public input from residents and businesses throughout the area. The major input opportunity included four public open houses or workshops where people could discuss future directions and transportation priorities. The general public was invited to participate in an online survey in early 2013 where key community and transportation initiatives were established. The Plan's online presence continued with updates on the APO's Facebook page and website. When requested, staff presented to the committees and boards of local jurisdictions and even community groups. Most importantly, the Plan's direction was led and directed by the APO's ongoing organizational groups. This meant at key times involving both the APO Executive Board and Policy Committee but usually the Plan was a reoccurring agenda item on the APO's Technical Advisory Committee (TAC) and Bicycle and Pedestrian Advisory Committee meetings. To conclude, the appropriate 30-day public review was provided and final approval was completed by the APO Technical Advisory Committee and Policy Board. In total, the Plan was discussed at nearly 50 meetings. All of which can be seen in Appendix A.

3.2 Survey Data

An online public survey consisting of 23 questions was made available on the Plan website at www.stcloudapo2040plan.org from January 23, 2013 through March 8, 2013. The link to the online survey was made available to the public through public workshops, advisory committee meetings, social media, and utilization of email list serves. Approximately 80 participants submitted responses to the online survey. The online survey focused on four question areas including: transportation and land use goals, transportation project priority areas, public opinion on future transportation project funding sources, and demographic information. The online survey also included overlap to questions in the previous plan in order to track changes in public opinion.

Figure 3-1



APO Online Survey: Goal Areas

Three questions collected information on transportation and land use goals for the area. The questions were formatted so a participant could choose up to three or four answers depending on the question. Figure 3-1 displays the results from the question regarding the most important transportation challenges for the area in the next 25 years. The two answers with the highest response include "Traffic congestion and delays" with 27 percent and the "Aging and deteriorating transportation system" with 26 percent. With the addition of the third highest response, "Rising construction costs and lack of funding", participants indicated the most significant future challenges to the transportation system as congestion, delays, and preservation of the system.

Figure 3-2 and Figure 3-3 illustrate the responses to questions regarding area livability and land use strategies. These two questions offered answers that were not transportation specific in an effort to quantify the importance of transportation related issues compared to community-wide concerns. In the question represented by Figure 3-2, participants were asked to identify what elements are important for a "livable" community. Participants indicated the need for bicycle and pedestrian facilities (second to employment opportunities) as most important for a "livable" region. Figure 3-3 illustrates participant responses to what types of land use strategies are ideal for the area. Responses for preferred land use strategies focused on the redevelopment and revitalization of downtown and main street areas (17 percent) as well as development along existing transportation corridors (15 percent). With many choices available to choose from for this question, participant responses were split between the remaining choices with the next popular responses including "More greenways and parks" (11 percent) and "Limit growth and spread of development where sewer and water utilities are not available" (10 percent).

Figure 3-2

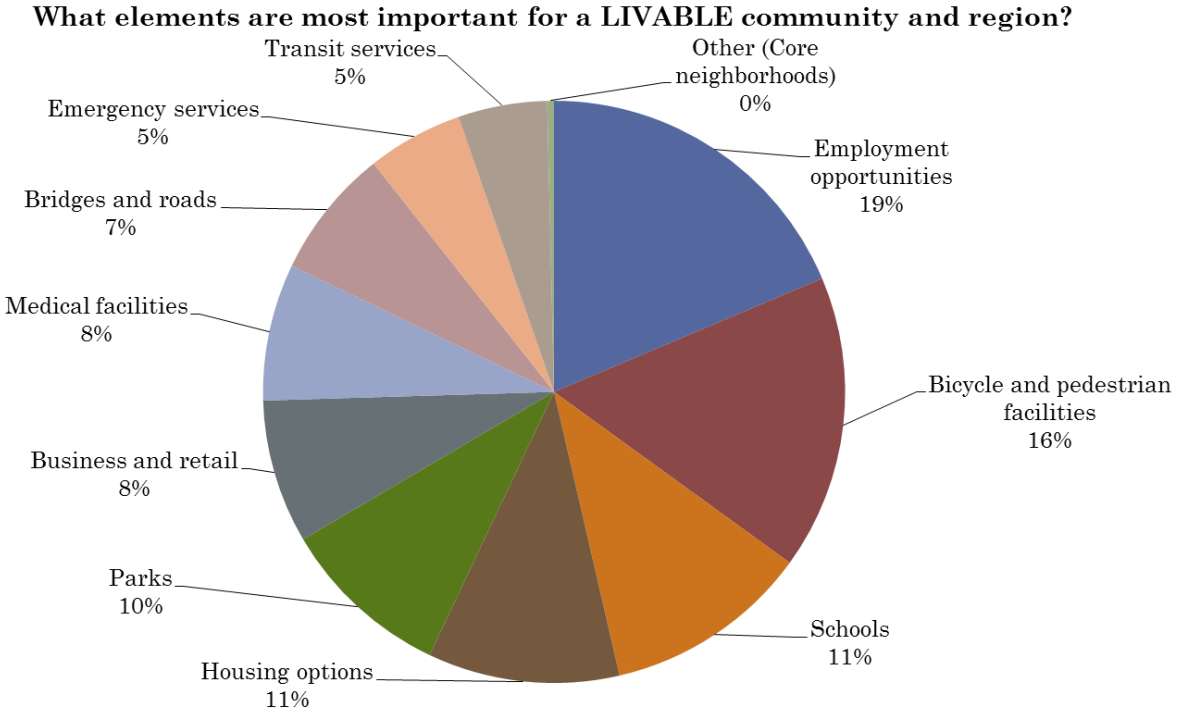
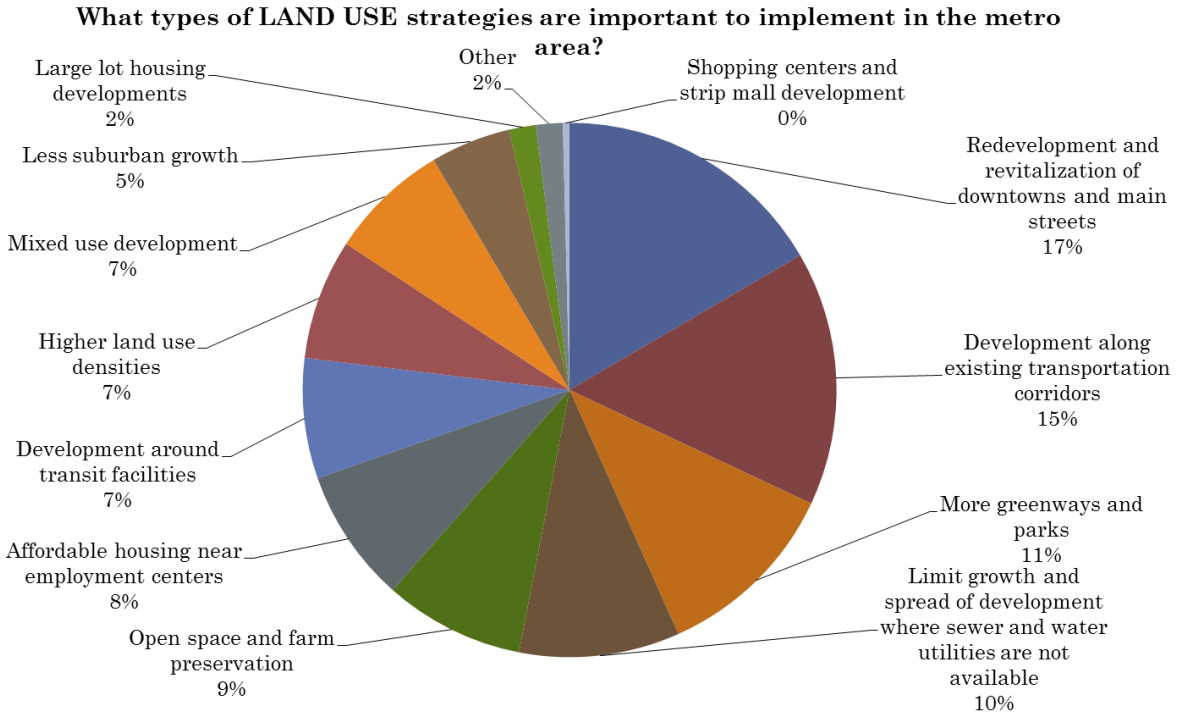


Figure 3-3



APO Online Survey: Transportation Priorities

Through a series of six questions, participants identified the maintenance of existing bridges and roads as the overall highest transportation priority from now until 2040. Each question asked participants to rank each item from 1 (Not Important) to 5 (Very Important). Overall averages of all answers are indicated in Figure 3-4. Of note, none of the items averaged a ranking less than a "3", which indicates that each transportation priority item was considered, on average, "Important" to some extent to the participants.

APO Online Survey: Future Funding Sources

For this group of questions, participants were asked to indicate their willingness to support an increase or an addition of nine types of funding sources for transportation improvements. See Figure 3-5 for the percentage of "Yes" versus "No" responses for each type of funding source. Overall, respondents displayed a willingness to increase all forms of existing taxes and revenue generators, that do or may fund transportation, with the exception of property taxes which was opposed by respondents. Comparatively, respondents were in opposition to all tax forms which could result in new funding sources or streams. For example, the Vehicle Registration Fee, an existing tax, received the highest percentage of "Yes" responses (79 percent), indicating this item has the most support from participants for a future fee increase out of the nine items. In addition, other existing fees or taxes received majority "Yes" indications for a willingness to see an increase in these. These include the Gas Tax (67 percent), Traffic (Developer) Impact Fee (70 percent), Local Sales Tax (69 percent), and License Tab Fee (70 percent). New fees or taxes, or those not currently used specifically for transportation projects, received a low level of support for a willingness to see an increase; these include the Vehicle Miles Traveled Tax (33 percent), Utility

Figure 3-4

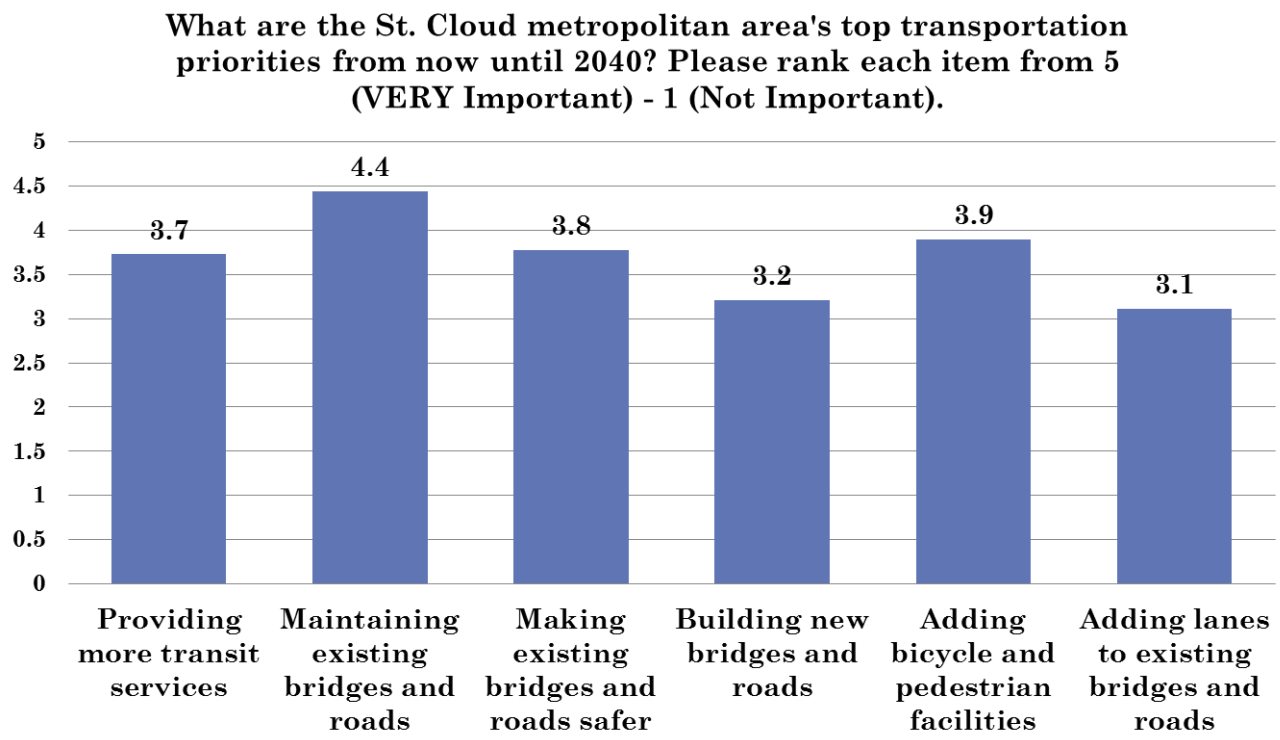
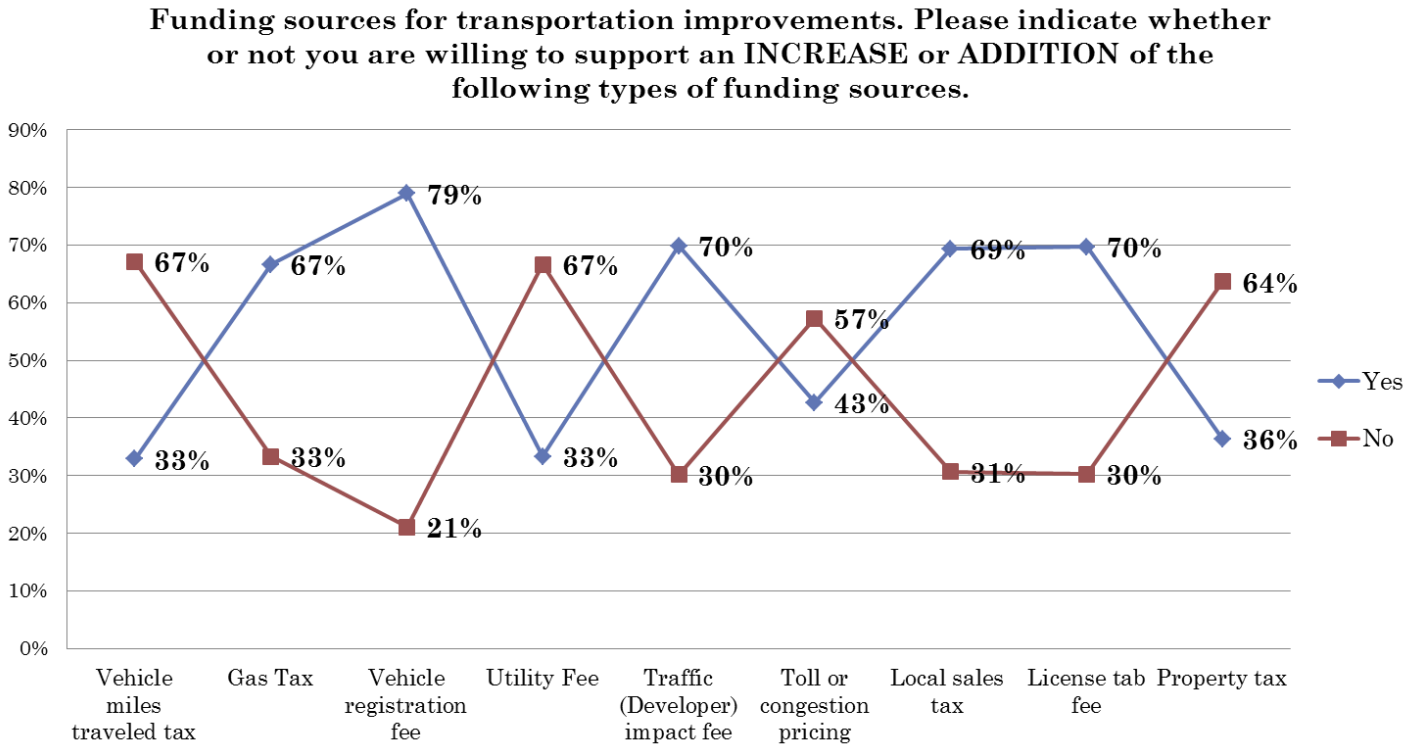


Figure 3-5



new taxes or fees, but they expressed some willingness for increases in the existing tax and fee structure for transportation improvements.

APO Online Survey: Demographic Information

Demographic information is important for tracking the validity of a survey. It was not a goal of this survey to have a representative scientific sample of participants. Some demographic information was collected in order to better understand the data. Age, Race, Place of Work, and Place of Residence questions were included as part of the online survey. Participants were also asked to indicate their primary mode of transportation. "Drive Alone" was the top response with 82 percent. Of the remaining 18 percent of participants, 12 percent indicated "Bicycle", 3 percent for "Carpool", and 1 percent each for "Transit", "Walk", and "Airplane". The information in this question assists in the interpretation of the survey response data by illustrating which groups participated in the survey and which groups did not participate. Figures illustrating the demographic information can be found on the following pages.

Figure 3-6

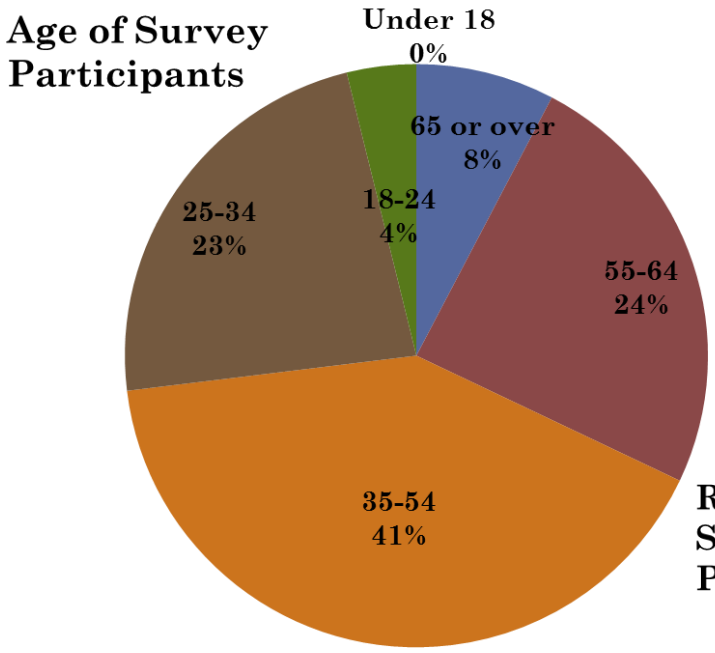


Figure 3-7

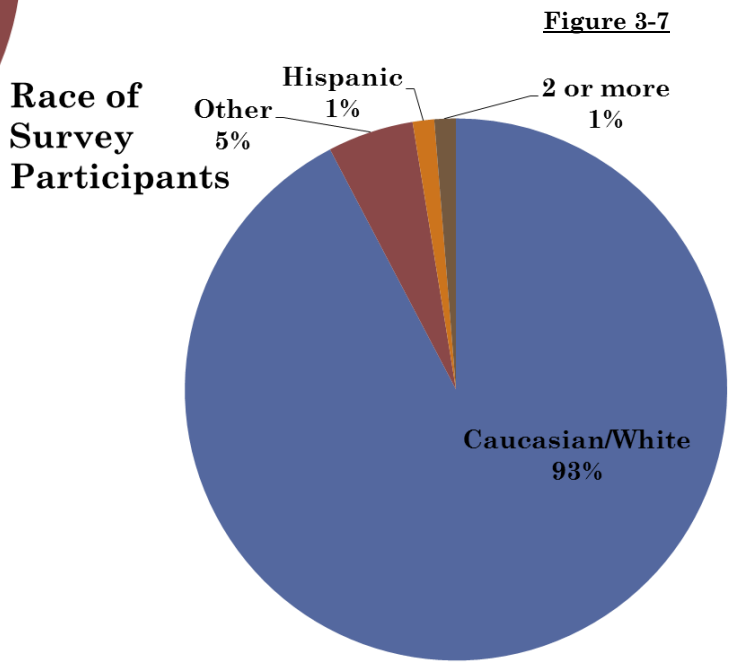


Figure 3-8

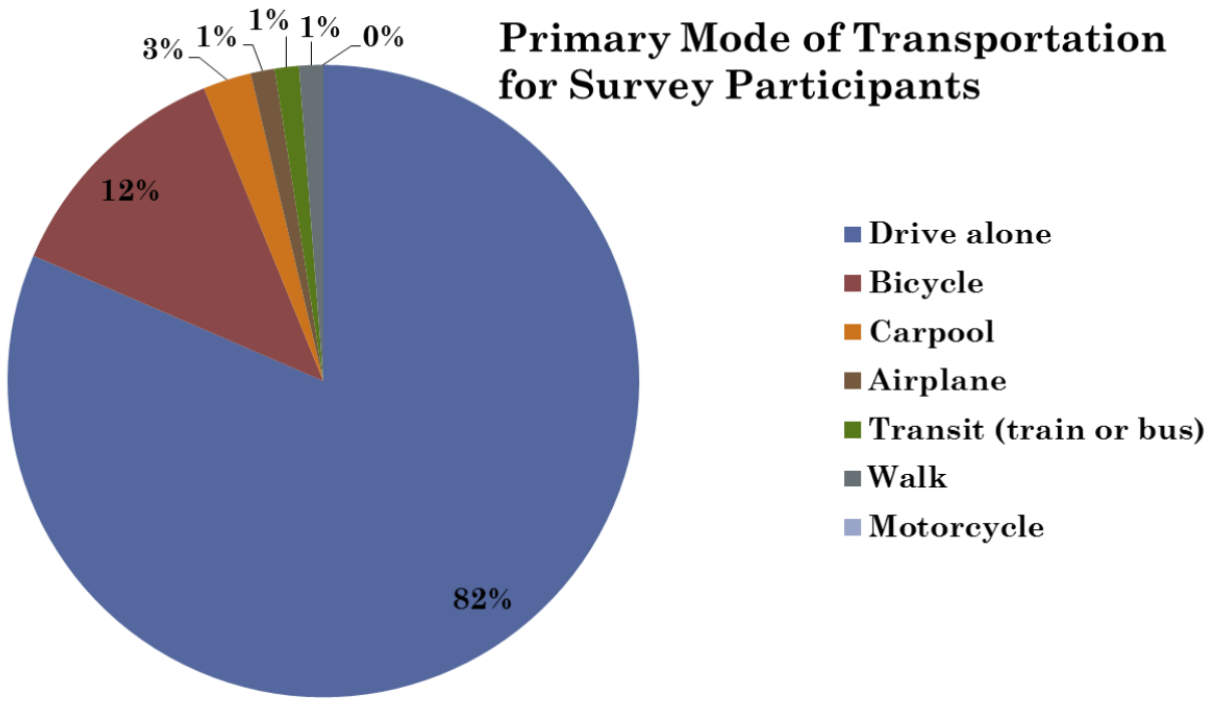


Figure 3-9

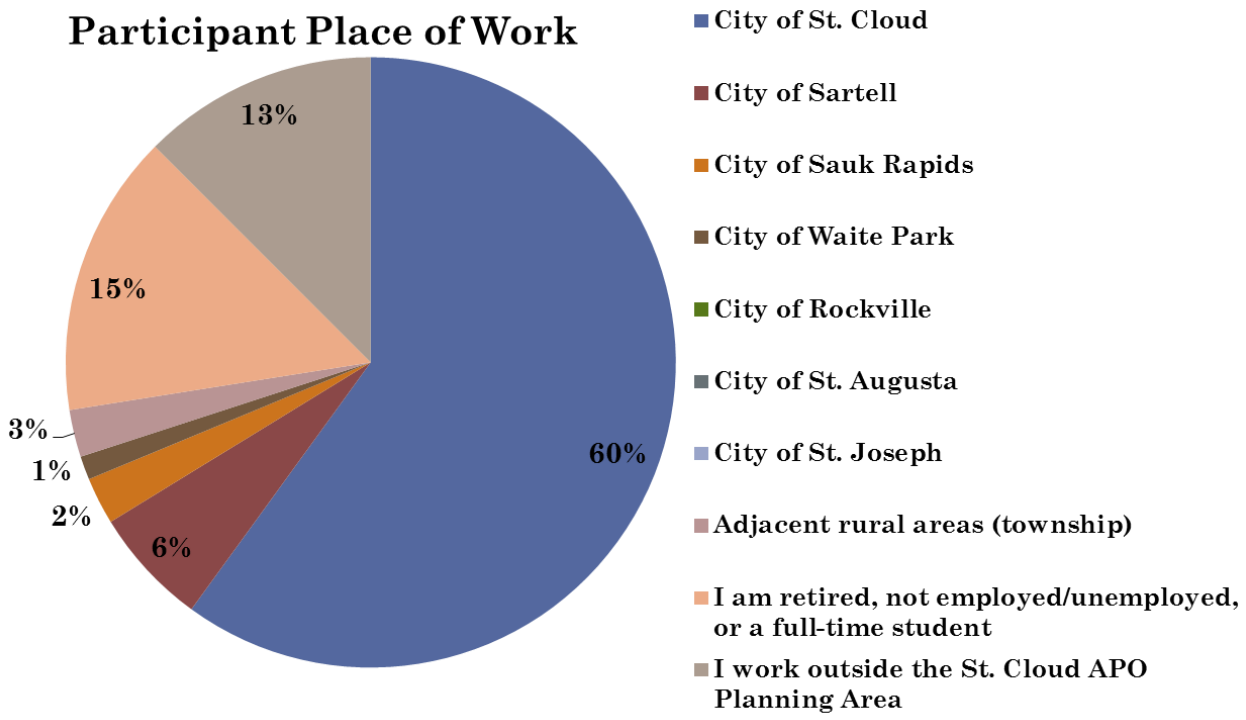
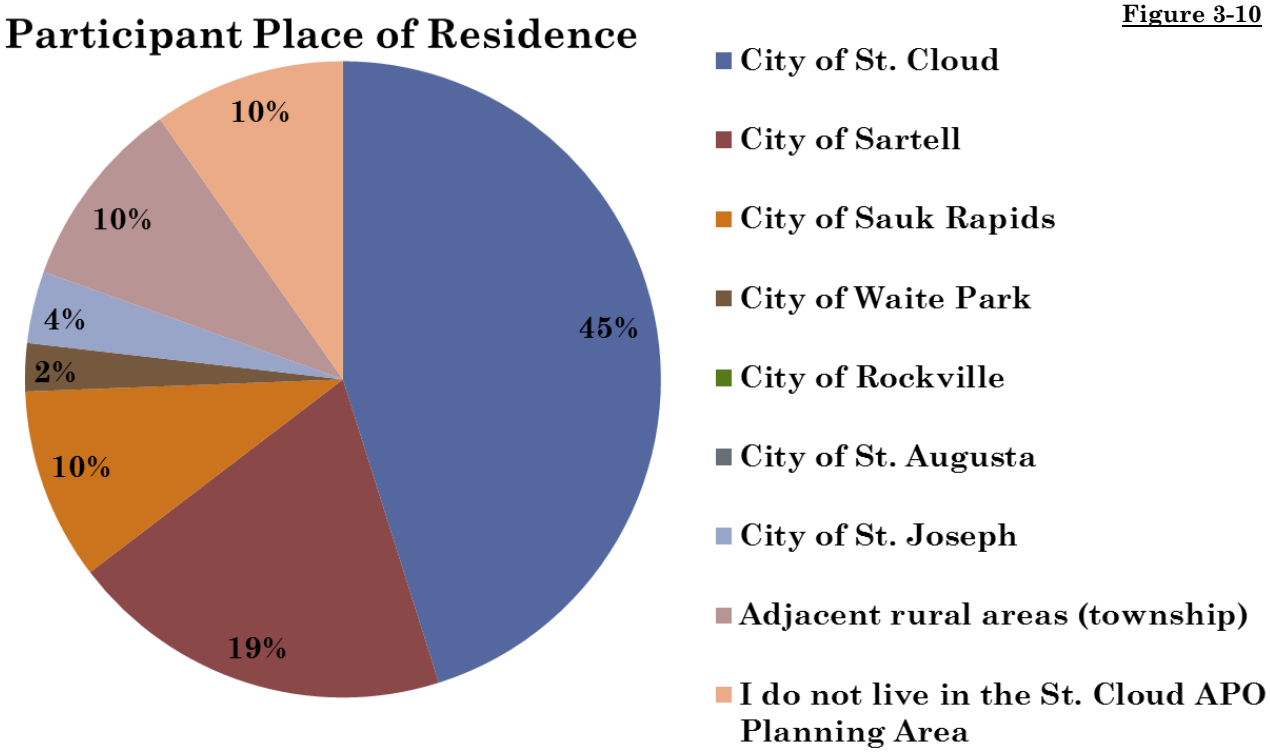


Figure 3-10



The main public meeting forum for the 2040 Plan was at 2 Public Workshops and 2 Public Open Houses. The first two Public Input Workshops were held to outline the transportation planning process and gather input on transportation goals and priorities. The first workshop took place on February 28, 2013 at the St. Cloud Public Library with television coverage provided by UTVS. The second workshop was held at the Sauk Rapids Government Center on March 5, 2013. Over 40 residents and officials attended the workshops and approximately 18 comment sheets were received. Five questions on the comment sheet were multiple choice questions pertaining to transportation goals and priorities, but the majority of questions (6 questions) on the comment sheet included open-ended essay type questions. Overall, 135 comments to open-ended questions were received at the two Public Workshops.

Figures 3-11, 3-12, 3-13, 3-14, and 3-15 illustrate the responses to the five multiple choice questions from the Public Input Comment Sheet provided at the workshop. With such a small sample size, it is difficult to project any conclusions from the data. However, general data from those who submitted comments are still valuable to the planning process. Workshop participants indicated the importance of a "Multimodal Transportation Focus" (Figure 3-11), transportation projects that "Expand and Connect Bicycle and Pedestrian Facilities" (Figure 3-12), and the "Bicycle and Pedestrian" and "Public Transit" as the transportation systems that need the most improvement (Figure 3-13). Responders also indicated a lack of adequate Bicycle and Pedestrian facilities near residences with the need for improvement in a wide range of areas (Figure 3-9 & 3-10). This public feedback emphasizes the importance of bicycle, pedestrian, and transit systems in the overall transportation network.

Figure 3-11

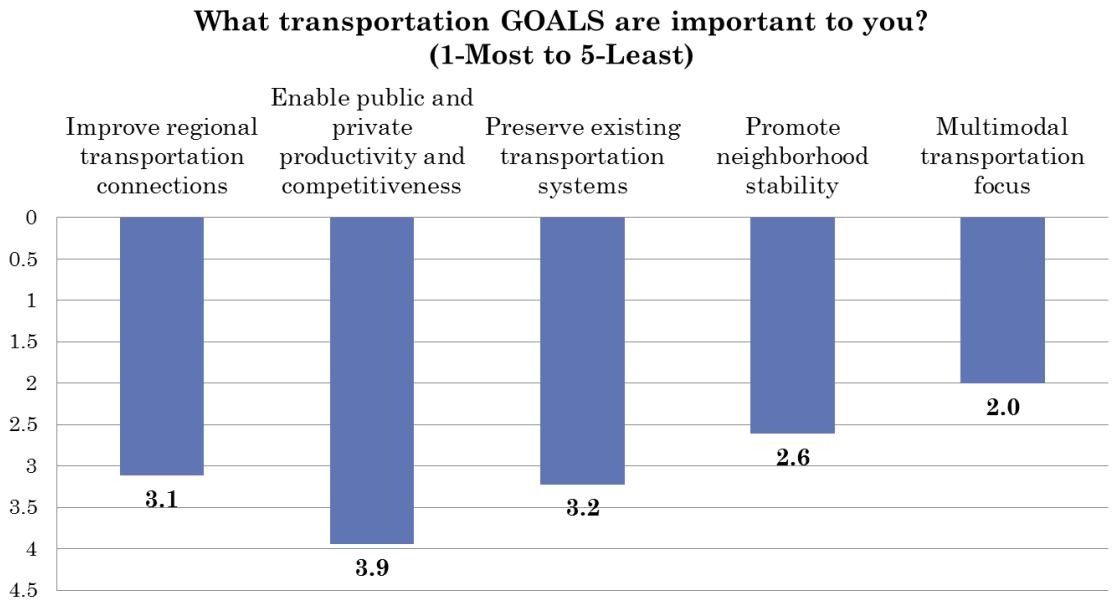
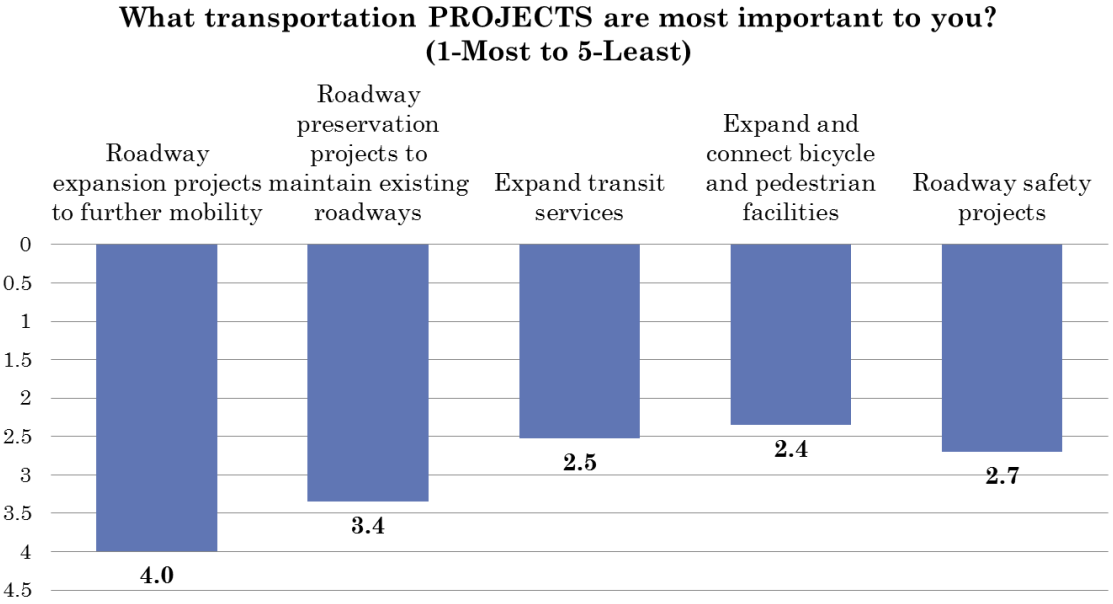


Figure 3-12



3.3 Input from Public Workshops and Open Houses

Workshop participants also provided answers to open ended questions about transportation goals, priorities, and projects. Out of the over 135 comments, certain themes and trends emerged as significant. These trends cover priorities for road, bicycle, pedestrian, and transit systems. Specifically, workshop participants indicated 6 transportation priorities:

- Connect trail facilities and increase bicycle facilities
- Place emphasis on road maintenance
- Connect Northstar to St. Cloud
- Improve multimodal and alternative transportation systems and solutions (bike, pedestrian, Northstar, transit)

Figure 3-13

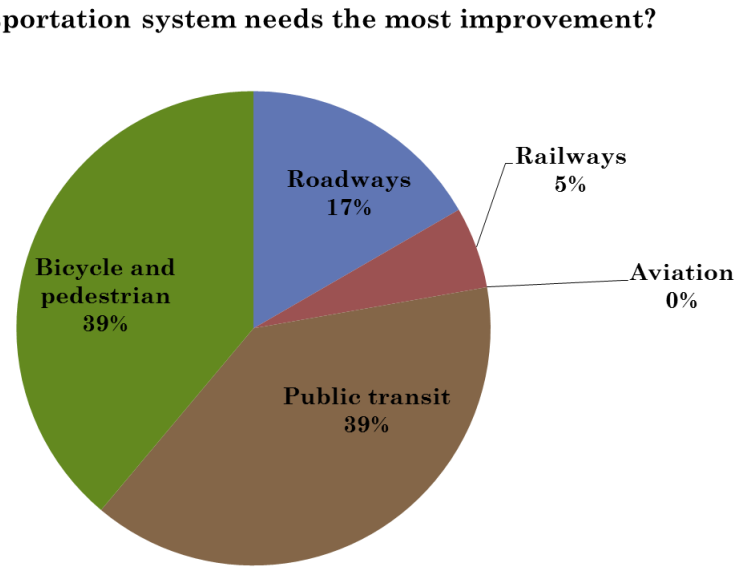


Figure 3-14

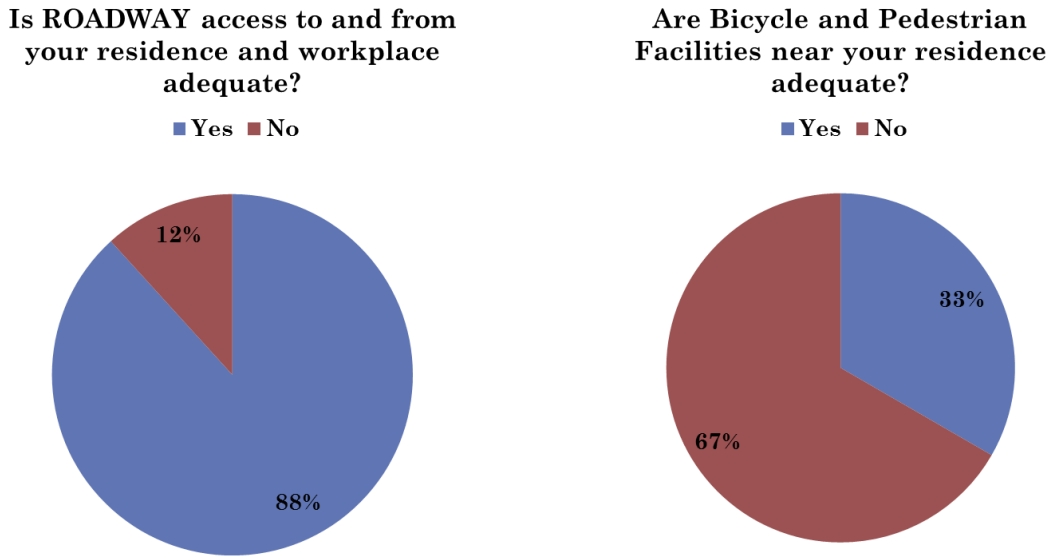
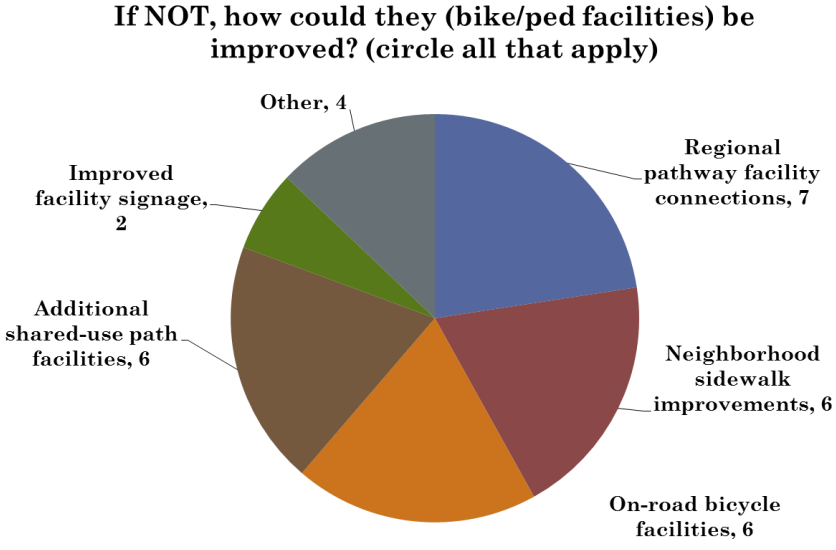


Figure 3-15



- Congestion relief on I-94, Highways 15, 23 & 10
- Concerns about shortfall in road funding

These priorities are expressed through the public input and qualitative analysis process. The planning process seeks to build and incorporate these priorities into planning goals and objectives. See *Appendix B* for a complete list of public comments received at the February and March 2013 Public Workshop and a full Public Outreach Log.

Following the Public Workshops, the public was able to send additional comments to the APO through a link on the website. Only a few comments were received in total but once again they mostly had a multi-modal theme. Specific comments included increasing trail and bicycle options and developing high speed train connections to other regional centers.

On November 12, 2013 a Public Open House was conducted at the St. Cloud Library. This meeting was important in the Plan's development because it was the first time the general public was able to review

Figure 3-16: February 28, 2013 Public Workshop

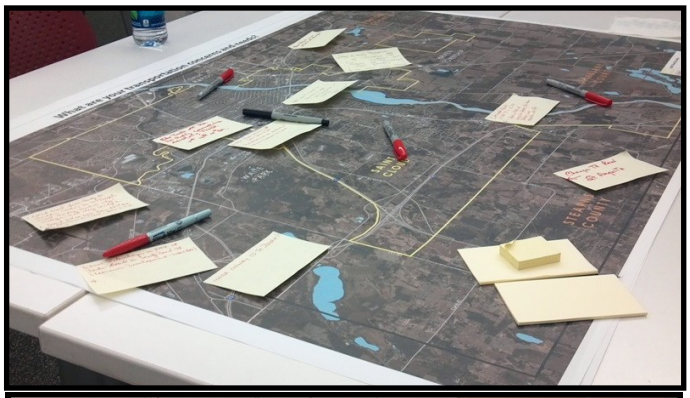
the results from the online survey and from the first two Public Workshops. Besides establishing the general direction of the plan the public also had the opportunity to review the data already collected and early technical results. This meant reviewing the population and land use projections for 2040 which are key to the development of the Plan's needs and the initial performance measures developed to support the goals. The public was also given the opportunity to review safety data, access management guidance, and recommendations from the APO Technical Advisory Committee (TAC) concerning alternative mode strategies.

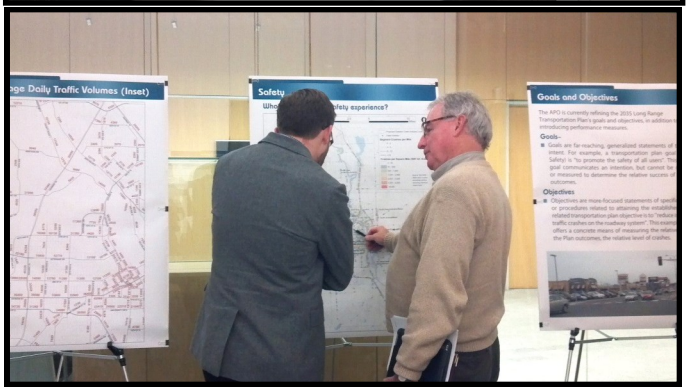
The meeting concluded by requesting attendees provide written responses to a set of prepared questions. Over 20 participants provided responses. Input was also gathered from feedback boards and the use of a map requesting issues be identified. From these activities several common themes were heard. One of the top themes was the need for further bicycle and pedestrian improvements, including more trails, throughout the area, with a few comments directly requesting the expansion and

continuation of the Lake Wobegon Trail. Another popular theme surrounded the need for improved transit services including additional park and ride lots and the continuation of Northstar Commuter Rail into the City of St. Cloud. One interesting set of comments referred to the need for both trail and transit development for older and disabled citizens. Other comments included, the need to identify and bring additional transportation funding into the area, concerns related to the amount of congestion on higher volume roadways, and improvements to Interstate 94.

The last Public Open House was held on May 15, 2014 in the Council Chambers for the City of St. Cloud . The primary purpose of the meeting was to start the discussion on potential future roadway construction projects. These projects had to be recognized as part of having a fiscally constrained plan. To aid in this, participants were shown maps which displayed future traffic volumes and roadway congestion. Utilizing these maps staff had prepared a list of projects that would serve a benefit to the St. Cloud area. During the meeting, participants were asked to discuss and provide input on the value and priority of these project alternatives. This open house also set aside time to review and provide any further update on the technical items presented at the November 2013 meeting.

Figure 3-17, 18: November 12, 2013 Public Open House





3.4 Conclusions from Non-APO Public Surveys

In 2012, the city of St. Cloud partnered with St. Cloud State University and Dr. Michelle Kukoleca Hammes to conduct a city-wide hand-delivered survey on resident satisfaction with city services and recreation and cultural opportunities. This was an extensive survey with a high response rate of roughly 7,400 households. Importantly, the survey had residents identify the top three issues the city of St. Cloud should address in the next year. The number one issue identified by St. Cloud residents was Traffic Congestion. Traffic Congestion ranked ahead of "Crime/ Safety" and "Jobs", which were numbers two and three, respectively. In addition, 55 percent rated the ease of driving around town as "Difficult". This survey indicates the public's opinion on the need to address traffic congestion in the area.

In April of 2013, the St. Cloud Area Chamber of Commerce commissioned Agency 128 to conduct a survey about the needs of local organizations and businesses. The survey included 370 responses from businesses and other organizations in Central Minnesota. The survey structure listed 21 needs and asked respondents to rate them as "Fully met", "Somewhat met", "Not met", or "Don't need/don't use". Needs were then organized in order of largest "Not met" needs to the smallest. The top ranking need of in the survey was "Extending Northstar Corridor commuter rail to St. Cloud". Of the 370 businesses

participating in the survey, 44 percent identified this need as "Not met". The second highest ranked unmet need, with 37 percent of businesses, was also transportation related: "Increasing air transportation options for Central Minnesota". Seventh on the list out of 21 needs was "Funding roads, bridges and other transportation infrastructure". This infrastructure funding category rose from 9 percent in the 2002 survey to 22 percent of businesses indicating it as a "Not met" need in the 2013 survey, the fourth highest percentage increase on the list. Each of the transportation related needs ranked at or near the top of this list for businesses in Central Minnesota. This survey allows for a better understanding of the importance of specific transportation projects in the region.

3.5 Public Involvement in the Plan

Besides the online survey and the public workshops, the Plan was also heavily influenced by the direction given from the APO's Technical Advisory Committee (TAC). The TAC is composed of technical staff, usually an engineer or planner, representing all of the APOs cities, townships, counties and representatives from MnDOT and FHWA. The primary purpose of the TAC is to advise the APO in transportation related matters including, but not limited to, the development of transportation plans and programs, preparation of the transportation portion of work programs and study designs, and review of transportation projects submitted to APO. For the Long Range Plan, the TAC acted as the initial layer for the review and approval of technical information and Plan guidance. Often, the information that was received from the public workshops and the survey was presented to the TAC for approval and recommendation.

The Plan was heavily influenced by the results of the public process. The most significant of all the policies in the Plan influenced by public input was the need to keep some future emphasis on expanding the system. This desire was seen in the survey during which respondents ranked expansion projects to further mobility higher than roadway preservation and selecting traffic congestion higher than the deteriorating system as issues over the next 25 years. As a result, with approval by all of the APO's committees, including the TAC, the Plan designates that 35% of the future transportation funds should be spent on expansion. Other policies in the Plan guided by public input include recommendations on bicycle and pedestrian facilities, including the entire Alternative Management Chapter, and all fiscally constrained projects in the Plan.

3.6 Conclusion

The public involvement process for St. Cloud APO Long Range Transportation Plan 2040 focused on providing multiple ways for people to get involved and influence the Plan's development. Regional community members directly affected Plan goals, alternatives studied, evaluation of those alternatives and the ultimate direction of the plan.

Chapter 4: Goals, Objectives and Performance Measures

4.1 Introduction

A key element to the St. Cloud Area Planning Organization (APO) Long Range Transportation Plan's (LRTP) development was establishing goals, objectives, and performance measures. These elements provide the plan with direction and guidance in achieving a shared transportation vision for the APO. In essence, these elements strive for a safe, mobile, and accessible transportation system that meets the needs of the community. More importantly, SMART principles were used to guide the development of the Goal Areas. In essence, the SMART principles helped shape "agreed" upon goals; "specific" and "realistic" objectives; and, "measurable" and "time-bound" performance measures. SMART principles are defined below:

- Specific – Sufficient to guide approaches
- Measurable – Quantitative measurement
- Agreed – Consensus among partners
- Realistic – Can be accomplished
- Time-Bound – Identified time-frame for accomplishment

The Plan's goals, objectives and performance measures were further aligned with MAP-21's goals. An elaboration of MAP-21's goals is provided below:

- Safety: Reduce fatalities and serious injuries.
- Infrastructure Condition: Maintain assets in state of good repair.
- Congestion Reduction: Reduce congestion on the National Highway System.
- System Reliability: Improve system efficiency.
- Freight Movement and Economic Vitality: Improve networks, strengthen rural access to national and international trade markets, and support regional economic development.
- Environmental Sustainability: Enhance the performance of the transportation system while protecting and enhancing the environment.
- Reduced Project Delivery Delays: Reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by reducing regulatory burdens and improving agencies' work practices.

4.2 APO Goals and Objectives

Safety

Goal Statement:

- Develop and maintain a transportation system that promotes the safety of all users.

Objectives:

- Reduce the number of fatalities consistent with the "Toward Zero Deaths" initiative and the severity of crashes throughout the APO area.
- Emphasize low-cost/high-benefit treatments that address safety and operation needs.
- Implement intersection safety improvements from the Transportation System Management (TSM) Report.

Accessibility & Mobility

Goal Statement:

- Increase the accessibility and mobility options for people and freight while exploring congestion mitigation measures.

Objectives:

- Provide sufficient capacity in the transportation system to accommodate existing and future travel demand.
- Provide a transportation system that accommodates access and mobility needs appropriately.
- Reduce excessive travel delays through the reduction of vehicle-hours traveled (VHT) and vehicle-miles traveled (VMT), and improve roadway Levels of Service to D or above.

System Connectivity

Goal Statement:

- Enhance the integration and connectivity of the transportation system across and between all modes, including, bicyclists, pedestrians, transit and freight.

Objectives:

- Maintain the APO area's functional classification hierarchy to reflect Federal Highway Administration (FHWA) guidelines for mileage by classification.
- Advance investment strategies of the Minnesota freight and passenger rail plans.

System Management

Goal Statement:

- Promote efficient system management and operations while increasing collaboration among businesses, community and industry groups, and federal, state, and local governments to better target investments and improve accountability.

Objectives:

- Encourage the application of Intelligent Transportation System (ITS) technologies in the APO Area by promoting the application of new ITS technologies.
- Encourage public-private partnerships and other applicable innovative financing alternatives.
- Consider all local partners in the transportation planning process to create a seamless transportation network.

System Preservation

Goal Statement:

- Develop a transportation system that is cost-feasible, maintains a state of good repair, and explores low-cost/high-benefit solutions that satisfy public transportation priorities.

Objectives:

- Optimize investments to maintain and preserve the existing assets, pavements, and bridges.
- Identify sufficient funding sources (e.g., local, state, and federal) to meet existing and future preservation and maintenance needs.

Active Transportation

Goal Statement:

- Develop and maintain a transportation system that integrates multimodal options for all users while taking into account active living and public health initiatives.

Objectives:

- Integrate multimodal facilities along roadways while providing safe circulation for both commuter travel and multimodal use.
- Invest in transportation alternatives that enhance transit, bicycle, and pedestrian facilities and services for persons who cannot, or chose not to use motor vehicles.
- Encourage the use of context sensitive design principles that foster positive public health outcomes.

Energy and Environment

Goal Statement:

- Support transportation improvements that promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth and economic development patterns.

Objectives:

- Promote alternative modes of transportation and fuel efficient vehicles that reduce transportation-related CO2 emissions.
- Incorporate context sensitive design principles into project development for corridors and transportation infrastructure.
- Avoid, minimize, and/or mitigate adverse social, environmental, and economic impacts resulting from existing or new transportation facilities.

Metropolitan Vitality

Goal Statement:

- Support the economic vitality of the APO area by enabling global competiveness, productivity, and efficiency.

Objectives:

- Promote economic competitiveness by enhancing the movement of goods and services through connections to the regional transportation system.
- Provide access to jobs and education services and enhance business access to markets via freight, air, and rail.
- Support local and regional connections that are efficient for freight movement.

Security

Goal Statement:

- Increase the security of the transportation system for motorized and non-motorized users in preparedness for emergency events and natural disasters.

Objectives:

- Identify critical street and highway system assets that are essential for emergency response routes and those that are vulnerable to natural disasters.
- Identify and incorporate state and regional emergency, evacuation, and security plans into transportation plans and Transportation Improvement Plan (TIP) project selection.
- Improve incident management response times within the APO area.

4.3 Performance Measures & Indicators

MAP-21 requires that planning agencies place greater emphasis on performance measures and monitoring. Performance measures are designed to serve as a benchmark to evaluate and quantify progress. This performance-based approach is meant to improve accountability of federal transportation investments, assess risks related to different performance levels, and increase transparency. The U.S. Department of Transportation is expected to disseminate rulemaking for performance measures in 2014 in four areas:

- National Highway Performance Program
- Highway Safety Improvement Program
- Congestion Mitigation and Air Quality
- Freight

Figure 4-1: 2nd Street (Highway 23) Bridge over Mississippi River

States will be required to set targets for each measure within one year after the rulemaking. Importantly, states will be required to set targets in coordination with regional planning agencies and with public transit operators. During the development of this Plan, these federal and state performance targets were not in place. However, the APO has helped set the stage for performance-based requirements by adopting a list of performance measures that will be tracked and monitored over time. The desired measures have been categorized into two areas: performance measures and performance indicators. This categorization will help better define the purpose of each measure and transition the APO towards a more performance-based planning agency.

1. Performance Measure - Performance measures help establish baselines for tracking trends on an annual basis. More importantly, these measures are developed to identify if a performance target is being met on an annual basis. In essence, these measures will help inform the LRTP's projects and serve as part of its regular reporting process.

2. Performance Indicator - Indicators are important to track; however, their trend lines may not change significantly over time. For example, the number of functional classification changes or the numbers of miles designated as a ten-ton route do not typically change on a yearly basis. In that respect, these measures may not serve as part of the LRTP's annual performance based reporting process.

Transitioning towards a performance-based planning agency will be an evolving process. It requires resources, staff, coordination amongst local and state agencies, and meaningful data. Therefore, it is appropriate to start simple in selecting performance measures and indicators that can be tracked and monitored today. As new data emerges and federal guidance is unveiled, the APO will work towards adopting new measures and targets that are appropriate for the region. In that respect, this Plan has selected a number of performance measures and indicators to pursue today and into the future.

Safety

1. The number of fatal and serious injury vehicle crashes system wide (Performance Measure).
2. The number of fatal and serious injury pedestrian crashes system wide (Performance Measure).
3. Percent of target investments in safety projects (Performance Indicator).
4. Number of low-cost/high-benefit improvements and TSM projects implemented (Performance Indicator).

Accessibility & Mobility

5. Minimize the increase in congested lane-miles (Performance Measure).
6. Minimize the increase in VMT (Performance Measure).
7. Minimize the increase in VHT (Performance Measure).
8. Reduce the miles of roadway (existing and future) exceeding a Volume/Capacity (V/C) ratio of 1.10 (V/C ratio corresponds to a planning LOS D) (Performance Measure).

System Connectivity

9. Percent of miles designated as a ten-ton route (Performance Indicator).
10. Progress towards regional connections, including Northstar Rail between Big Lake and St. Cloud, and the widening of I-94 (Performance Indicator).

System Management

11. The number of interconnected signals (Performance Indicator).

System Preservation

12. Limit pavement in poor condition and maintain a percentage of the system in good condition (Performance Measure).
13. Limit the number of bridges in poor condition and maintain a percentage of the system in good condition (Performance Measure).
14. Percent of investments in road preservation and maintenance projects (Performance Indicator).
15. Percent of bridges beyond a life expectancy or older (Performance Indicator).

Active Transportation

16. Percent of investments spent on transit, bike, and pedestrian projects (Performance Indicator).
17. Increase the number of annual transit riders (Performance Measure).

Energy and Environment

18. Percent of transportation investments in environmental justice census tracts (Performance Indicator).
19. Reduction in CO2 emissions (Performance Measure).

Metropolitan Vitality

20. Limit pavement in poor condition and maintain a percentage of the system in good condition for freight corridors (e.g., ten-ton routes) (Performance Measure).

Security

21. Number of emergency routes vulnerable to natural disasters or major incidents (e.g., river crossings or railroad crossings) (Performance Indicator).
22. Incident clearance times on arterial routes (Performance Indicator).
23. Number of alternative routes for major transportation corridors (Performance Indicator).

4.4 Monitoring Performance Measures & Indicators

The APO has selected a series of performance measures and indicators from the list above to begin monitoring over time. However, as noted previously, federal and state performance targets were not in place during the development of this Plan. Therefore, the selected measures below will require additional guidance and coordination with federal and state agencies. In that respect, the selected measures below will serve as a starting point to align with MAP-21 requirements.

Performance Measure #1: Safety — The number of fatal and serious injury vehicle crashes system wide.

Description: A Plan objective is to reduce the number of fatalities consistent with the

"Toward Zero Deaths" initiatives and the severity of crashes throughout the APO area. Achieving this initiative needs to occur in a meaningful manner that sets realistic goals. Therefore, this measure focuses on linking system improvements/investments with known problem areas. In turn, this will help document the benefits associated with safety investments while achieving a reduction in fatal and serious vehicle and pedestrian injuries.

Historic Trends: The crash analysis prepared for this Plan used historical data obtained from the Minnesota Department of Transportation's Crash Mapping Analysis Tool (MnCMAT). The crash analysis identified problem areas using data between 2008 and 2012. As result, a list of intersections and roadway segments were identified as having high critical crash rates (see safety analysis for more information):

- Highway 15 and Veterans Drive
- Highway 15 and Division Street
- Highway 15 and 2nd Street South
- Highway 23 and Waite Avenue South
- Highway 23 and 2nd Avenue South
- Highway 23 and 28th Avenue South
- Highway 10 and East St. Germain Street
- County Road 1 and Osauka Road Northeast
- County Road 75 and County Road 133
- County Road 75 and County Road 2
- Highway 23 and 15th Street Northeast
- Highway 15 and 18th Street North
- County Road 133 and 2nd Street South
- Highway 15 and 3rd Street North
- University Drive and 9th Avenue South
- Highway 10 from Minnesota Boulevard to 45th Avenue Southeast
- County Road 10 from County Road 13 to County Road 33
- County Road 1 from County Road 29 to County Road 3

Figure 4-2: County Road 133 and 2nd Street South Intersection

Target:
A specific target has not been identified for this measure. Instead, the objective is to focus investments on problem areas identified as part of this Plan's safety analysis. These investments will help reduce the number of fatalities and serious injuries system wide.

Monitoring & Reporting Schedule:
It is important to recognize that a safety analysis should be prepared on an annual basis. This analysis will help determine if other areas of concern emerge. The APO will prepare a system wide safety analysis annually using MnCMAT data. Furthermore, the APO will document if safety investments have helped reduce the number of fatalities and serious injuries at a specific location as historical data becomes available. This reporting process will occur annually by the APO.

Performance Measure #6 & #7: Accessibility & Mobility — Minimize the increase in VMT and VHT.

Description: The Plan's goals and objectives have specifically recognized a reduction in excessive travel delays through the reduction of vehicle hours traveled/vehicle miles traveled. To help evaluate these goals, the APO will use the APO travel demand model to estimate reductions over time.

Historical Trends: Overall system performance of the 2040 network was found to have considerable congestion even with the known improvements. The significant increase in congestion can be attributed to a 62 percent increase in vehicle-miles traveled (VMT) and a 115 percent increase in vehicle-hours traveled (VHT) between 2010 and 2040, resulting in a decrease in network speed from 28.05 to 24.72 miles per hour. These significant increases in VMT and VHT are a direct result of increases in forecasted population and land use.

Target: A specific target will need to be set as additional guidance is provided at the federal and state level. In the meantime, the APO will continue to focus on promoting alternative transportation solutions, which in turn help reduce VMT.

Monitoring & Reporting Schedule: The APO will continue to work with MnDOT to establish appropriate targets and a monitoring schedule.

Performance Measure #8: Accessibility & Mobility — Reduce the miles of roadway (existing and future) exceeding a Volume/Capacity (V/C) ratio of 1.10 (V/C ratio corresponds to a planning LOS D).

Description: The Plan's goals and objectives strive to improve the level of service (LOS) throughout the region. The APO's travel demand model provides an outlook on how the current system is operating, as well as future conditions based on the socioeconomic forecasts prepared for this Plan.

Historical Trends: The level of service was determined by calculating a volume to capacity ratio for the 2040 no build scenario. The V/C thresholds used for determining LOS are:

- LOS A = ≤ .7 V/C Ratio
- LOS B = .71 - .90 V/C Ratio
- LOS C = .91 – 1.09 V/C Ratio
- LOS D = 1.10 – 1.29 V/C Ratio
- LOS E = 1.30 – 1.49 V/C Ratio
- LOS F = ≥ 1.50 V/C Ratio

Based on this analysis, approximately two miles are operating at a LOS E and 17 miles are operating at a LOS F.

Figure 4-3: Cyclist riding on side street

Target: A specific target will need to be set as additional guidance is provided at the federal and state level. In the meantime, the APO will continue to focus low-cost, high-benefit solutions (e.g., signal retiming and lane configurations) to address existing and anticipated congestion.
Monitoring & Reporting Schedule: The APO will continue to work with MnDOT to establish appropriate targets and a monitoring schedule.

Performance Measure #12: System Preservation — Limit pavement in poor condition and maintain a percentage of the system in good condition.
Description: The Plan's goals and objectives have emphasized system preservation. To help achieve these goals and objectives, the APO will work with MnDOT in evaluating the National Highway System (NHS) and other MAP-21 NHS Principal Arterial routes from a pavement condition perspective. Over time, the APO will work with local jurisdictions to track pavement conditions on other roadways, such as minor arterials, collectors and local roadways.
Historical Trends: The NHS within the APO area includes Interstate 94 and Highway 23. Other MAP-21 NHS Principal Arterials include Highway 10, Highway 15, and CSAH 75. Pavement conditions for these corridors, with the exception of CSAH 75, have been documented by MnDOT's Pavement Management Condition Data in 2013. In most cases, the corridors Ride Quality Index (RQI), Surface Rating (SR), Pavement Quality Index (PQI), and Remaining Service Life (RSL) are in good to fair condition. However, there are a few roadway segments located on Highway 10 that contain a poor RQI and RSL. These segments are primarily located between Highway 23 and Highway 15.

In regards to CSAH 75, Stearns County's 2010 Pavement Quality Index (PQI) data was used to identify segments in poor condition. As of 2010, CSAH 75 is in good condition with a few segments in fair condition. These segments include portions of CSAH 75 between Highway 15 and Washington Memorial Drive, and 22nd Street South, and 33rd Street South.

Target: A specific target will need to be set as additional guidance is provided at the federal and state level. In the meantime, the APO will continue to focus investments on system preservation strategies. Segments that have been identified in poor condition (i.e., Highway 10) are already programmed for improvements in the 2014 – 2019 State Transportation Improvement Program (STIP). In general, the NHS and MAP-21 NHS Principal Arterials are in a good condition. However, future investments will need to focus on system preservation strategies to ensure that these routes are maintained in a "state of good repair."

Monitoring & Reporting Schedule: The APO will continue to work with MnDOT to establish appropriate targets and a monitoring schedule. The APO will also work with its local partners to establish targets for other functionally classified roads (e.g., minor arterials and collectors), while identifying data needs.

Performance Measure #13: System preservation — Limit the number of bridges in poor condition and maintain a percentage of the system in good condition.

Description: The Plan's goals and objectives have emphasized system preservation. To help achieve these goals and objectives, the APO will begin evaluating bridges located on the National Highway System (NHS) and other MAP-21 NHS Principal Arterial routes. Similar to performance measure #13, the APO will work with local jurisdictions to identify other bridge investments on lower classified roadways (e.g., minor arterials, collectors and local roadways).

Historical Trends: The NHS within the APO area includes Interstate 94 and Highway 23. Other MAP-21 NHS Principal Arterials include Highway 10, Highway 15, and CSAH 75. Bridge conditions for these corridors, with the exception of CSAH 75 have been document by MnDOT's Corridor Investment Management Strategy (CIMS) in 2012. This analysis included data from 2010, which included approximately forty bridges. The CIMS analysis did not indicate any bridges in poor condition.

In regards to CSAH 75, there is a bridge located over the Sauk River. The bridge was first built in 1954 and reconstructed in 1978.

Target: A specific target will need to be set as additional guidance is provided at the federal and state level. In the meantime, the APO will continue to focus investments on bridge preservation strategies. In general, bridges located on the NHS and MAP-21 NHS Principal Arterials are in good condition. However, future investments will need to focus on system preservation strategies to ensure that these bridges are maintained in a "state of good repair."

Monitoring & Reporting Schedule: The APO will continue to work with MnDOT to establish appropriate targets and a monitoring schedule. The APO will also work with its local partners to establish targets for bridges located on other functionally classified roads (e.g., minor arterials and collectors).

Performance Measure #18: Active Transportation — Increase the number of annual transit riders.

Description: Many of the Plan's goals and objectives focus on a transportation system that accommodates all users by improving various modes of transportation. The goals and objectives are linked to reduce traffic congestion, improve air quality, and enhance the area's overall quality of life. A simple measure to help track these initiatives is the increase in transit ridership. Over time this measure will likely become more in-depth in helping identify the benefits of transit ridership to the reduction in traffic congestion.

Historical Trends: Since 2004, transit ridership on Metro Bus has increased. Ridership has increased on average by 3.15% annually between 2004 and 2012 (see Table 5). However, ridership has fluctuated throughout this time period. For example, in 2009 there was a decrease in ridership by 8.55 percent. This decrease may be attributed to the economic downtown turn. Since that time, ridership has steadily increased as the economy recovers.

Target: The APO will strive to meet a 2.0 percent annual increase in ridership. This target will likely be adjusted as historical data becomes available.

Monitoring & Reporting Schedule: The APO will work with Metro Bus to obtain annual ridership data and will report findings on an annual basis.

Figure 4-4: Metro Bus Ridership Trends

Year	Number of Riders	Increase(#)	Increase (%)
2004	1,969,835	-	-
2005	2,131,645	161,810	7.59%
2006	2,337,218	205,573	8.80%
2007	2,470,032	132,814	5.38%
2008	2,638,883	168,851	6.40%
2009	2,431,012	-207,871	-8.55%
2010	2,437,933	6,921	0.28%
2011	2,588,183	150,250	5.81%
2012	2,575,363	-12,820	-0.50%
Average:	2,397,789	86,504	3.15%

5.1 2010 Existing Land Use

This chapter discusses measured land use types, existing land use (2010), forecasted land use (2040), population forecast (2040), as well as trips generated by land use (2010, 2040). Below is a brief description of how Plan policies and MAP-21 planning factors are being addressed in this chapter through current activities and how in the future the APO will continue to be vigilant toward policies and planning factors. The APO is working to better improve access and mobility of the entire transportation system by encouraging smart land use planning and sound access management as redevelopment and development occur. Supporting smart land use such as transit oriented development (TOD) and higher densities help promote multi-modal solutions while minimizing social, economic and environmental impacts.

5.2 Background

Existing and future land development is the basis of all travel demands on any transportation system. As new land development occurs, additional travel demands and congestion results. This congestion leads to capacity and access improvements on roads, bridges, transit systems, bike and pedestrian facilities, freight and air infrastructure and other modes. This improved transportation capacity and access to land, leads to new development and the cycle begins over again

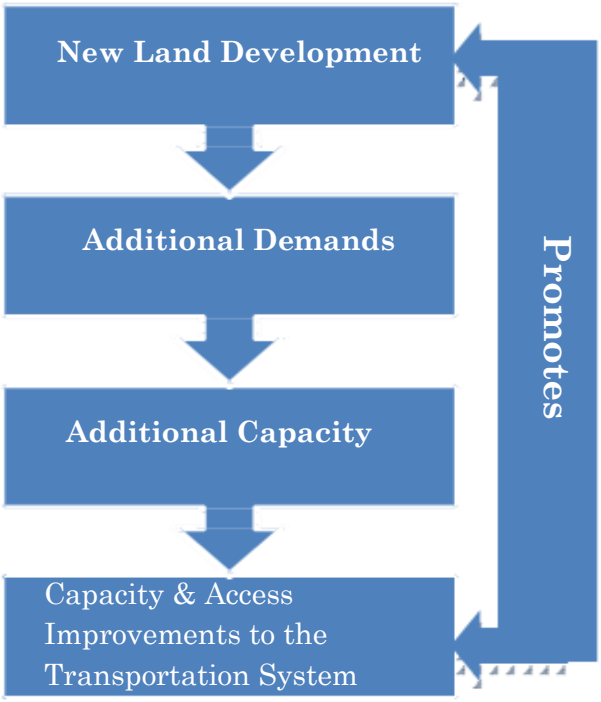
2010 Base Year Land Use

In order to determine existing 2010 land use, parcel data was acquired from APO member jurisdictions. Windshield surveys and aerial photography supplemented land record information.

Figure 5.1: MAP-21 Planning Policies

Addressing Plan Policies & MAP-21 Planning Factors	
Policy: Improving Access & Mobility of Entire Transportation System	Planning Factor: Accessibility & Mobility
Policy: Promote & Support Multi- Modal Solutions	Planning Factor: System Connectivity
Policy: Minimize Social, Economic & Environmental Impacts	Planning Factor: Energy & Environment

Figure 5-2: Development Process

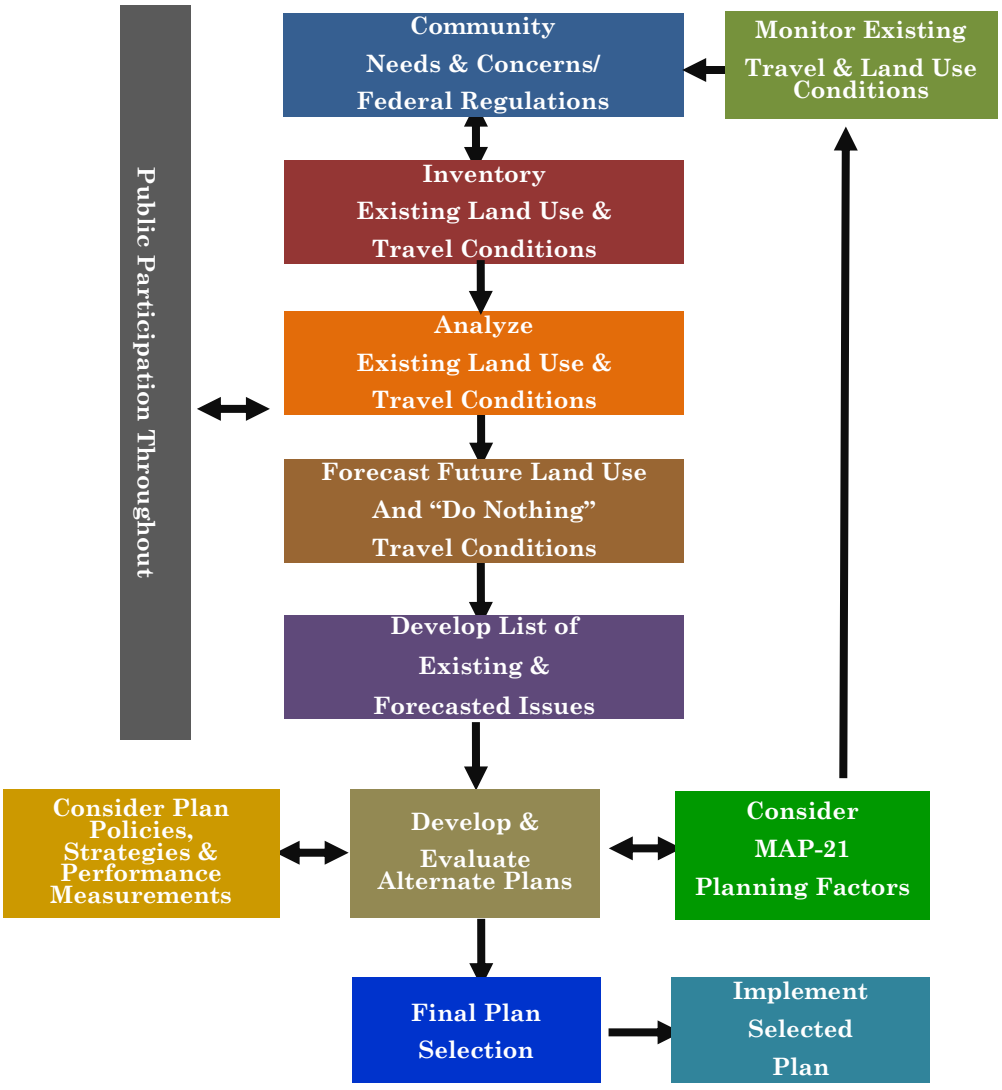


5.3 Planning Process

As the designated MPO for the St. Cloud Area, the APO provides the information, tools and public input necessary for elected officials to make informed decisions regarding improvements to the urban transportation system. Specifically, the questions that APO staff help transportation stakeholders answer include the following:

- What will be the magnitude of population and economic activities in the future?
- Where will these activities be located?
- How many trips will these activities generate?
- Where will the trips go?
- Which modes will the trips use?
- Which routes will the trips use?
- What is the best transportation system to meet the area's needs and priorities?

Figure 5-3: Transportation Planning Process



5.4 Planning Partnerships

Transportation planning in the St. Cloud Metropolitan Area is a collaborative process led by the APO and other key stakeholders in the urban transportation system. Key state and federal agencies directly involved in the APO transportation planning process include the Minnesota Department of Transportation (MnDOT), the Minnesota Pollution Control Agency (MPCA), St. Cloud Metro Bus, the Federal Transit Administration (FTA), and the Federal Highway Administration (FHWA). There are many other regional, local, state and federal agencies directly or indirectly involved in the APO transportation planning, including all 11 APO jurisdictional members. The transportation planning process is designed to foster involvement by all interested parties, such as the business community, community groups, environmental organizations, and the general public, through a proactive public participation process conducted by the APO in conjunction with MnDOT and St. Cloud Metro Bus.

The following were considered when allocating development

- Environmental features
- Zoning Ordinances
- Annexation agreements
- Public utility locations
- Roadways
- Land access
- Joint planning district boundary
- Comprehensive land use plans

Figure 5-4: Smart Growth Principles

- **Provide a variety of transportation choices – including walkable neighborhoods**
- **Encourage mixed use development and compact design**
- **Preserve open space, farmland, natural beauty and critical environmental areas**
- **Make development decisions predictable, fair and cost effective**
- **Support local and community based planning**
- **Create a variety of housing choices and opportunities**

Figures 5-5, 5-6: New Transit Oriented Development -5th Avenue Live (2010)

Map 5-1 St. Cloud Metro Area Existing Land Use map (2010)

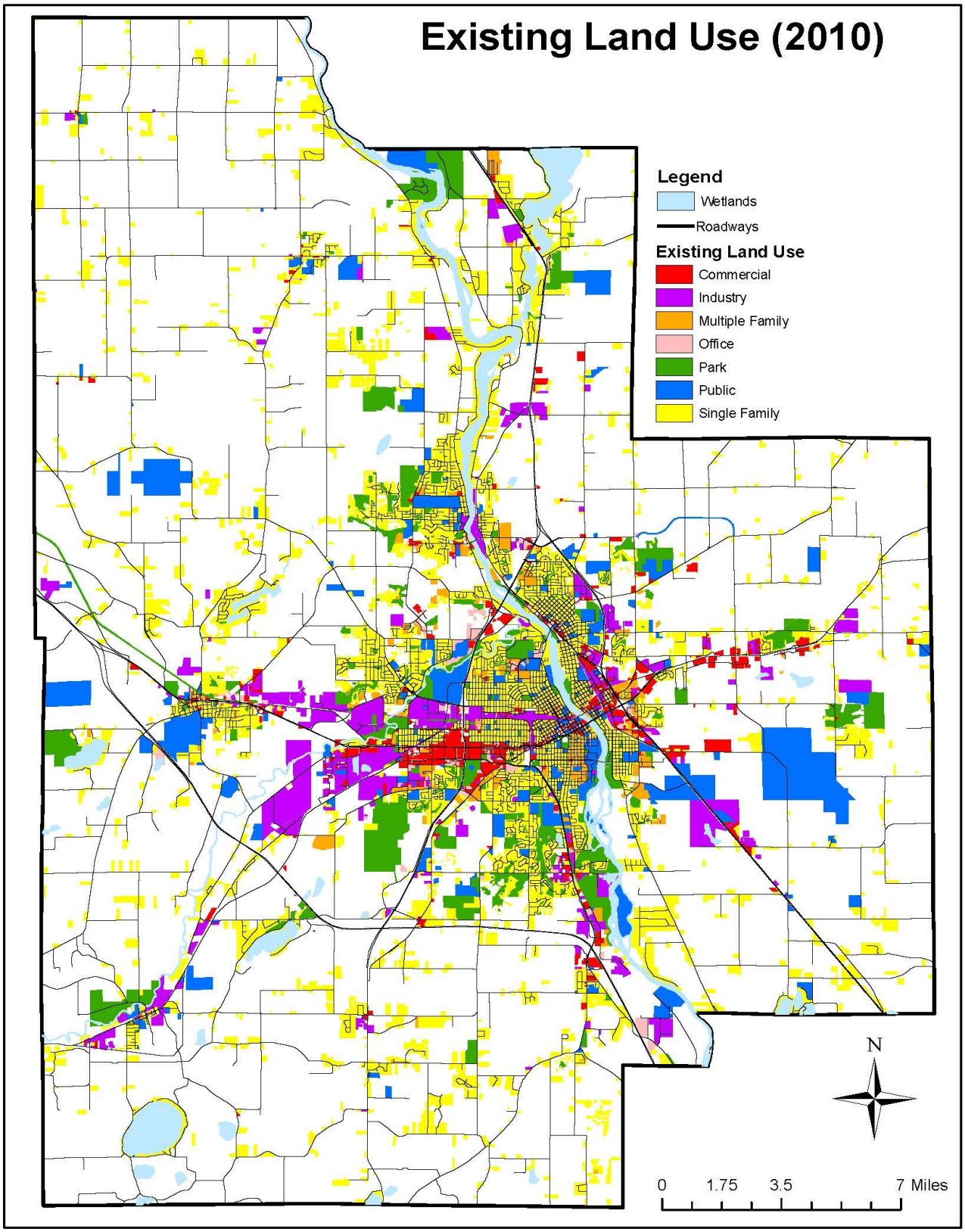
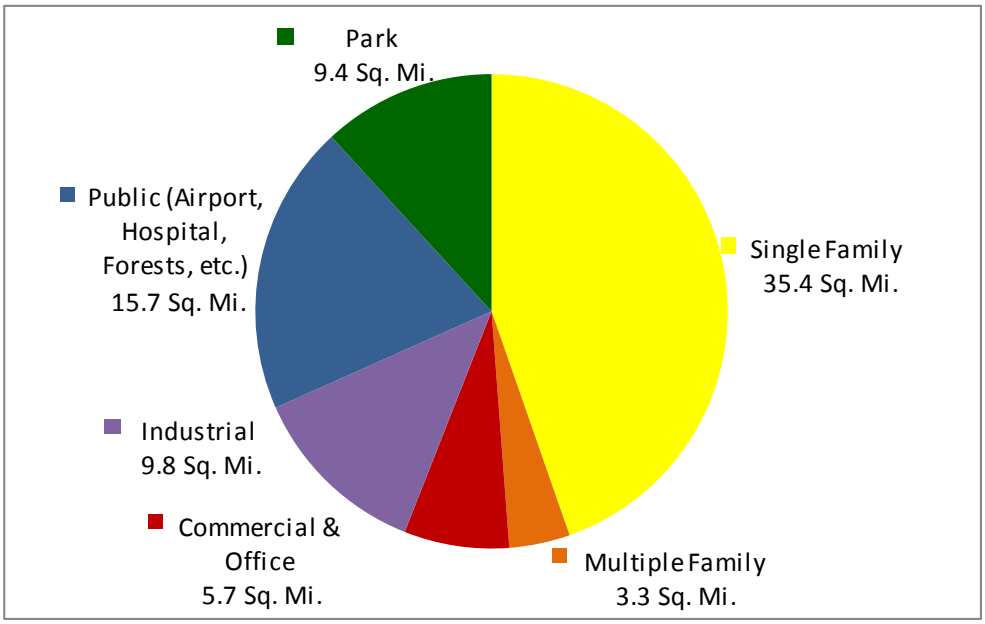


Figure 5-7: Existing Land Use by Type and Square Miles of Development (2010)



5.5 Trip Generation

All developed parcels were assigned a specific land use and trip generation measurement unit. Trip generation rates were taken from the Institute for Transportation Engineers (ITE) manual. Trip generation units are widely used for forecasting travel demands. It predicts the number of trips originating in or destined for a particular traffic analysis zone (TAZ). TAZ's are artificially drawn boundaries often based on Census Blocks, the St. Cloud APO has allocated 261 TAZ's throughout our planning area. Typically, trip generation analysis focuses on residences, and residential trip generation is thought of as a function of the social and economic attributes of households. At the level of the traffic analysis zone, residential land uses "produce" or generate trips. Traffic analysis zones are also destinations of trips, trip attractors. The analysis of traffic generators focuses on nonresidential land uses, such as Commercial, Industrial, and Office, etc. Figures 5-4, and 5-5 represent the measuring units the APO utilizes in our Traffic modelling analysis.

Figure 5-8: Categories of Land Use and Measurement Units

Land Use Category	Unit of Measure
Single Family	Dwelling Units
Multiple Family	Dwelling Units
Office	Square Feet
Industrial	Square Feet
Commercial	Square Feet
Hotel-Motel	Rooms
School	Students
Park	Acres
Hospital	Beds
College-University	Students

Land Use	Trip Generation
Single Family Residential	10.1/Dwelling Unit
Medium/High Density Residential	6.1/Dwelling Unit
Office	Formula-See Examples Below
Industry	7.0/1,000 Square Feet
Low Industry	4.0/1,000 Square Feet
Low Retail	47.5/1,000 Square Feet
Medium Retail	Formula-See Examples Below
High Retail	Formula-See Examples Below
Hotel/Motel	8.7/Room
School	1.03/Student
Park	10.0/Acre
Hospital	11.77/Bed
College	2.37/Student

Figure 5-9: Trip Generation Units

Office Examples

11,000 Square Feet	=	41.98/1,000 Square Feet
82,000 Square Feet	=	69.37/1,000 Square Feet
135,210 Square Feet	=	78.61/1,000 Square Feet
268,830 Square Feet	=	93.34/1,000 Square Feet

Medium Retail Examples

100,000 Square Feet	=	74.3/1,000 Square Feet
150,000 Square Feet	=	64.5/1,000 Square Feet
175,000 Square Feet	=	61.1/1,000 Square Feet

High Retail Examples

200,000 Square Feet	=	58.9/1,000 Square Feet
250,000 Square Feet	=	52.6/1,000 Square Feet
841,000 Square Feet	=	34.6/1,000 Square Feet

Figure 5-10: Trip Generation Formulas

5.6 Planning Sequence

After the 2010 base year land use was determined, and our 2010 trip generation was determined, the next step in the process was to prepare the 2040 population forecast. Once our 2040 population forecast was determined we could better predict and allocate the amount of land use needed to handle that growth. With that information we could then forecast growth areas and traffic demand modeling sequences for 2040. Among other factors, our 2040 land use forecast was constrained to be proportionate with our 2040 population forecast.

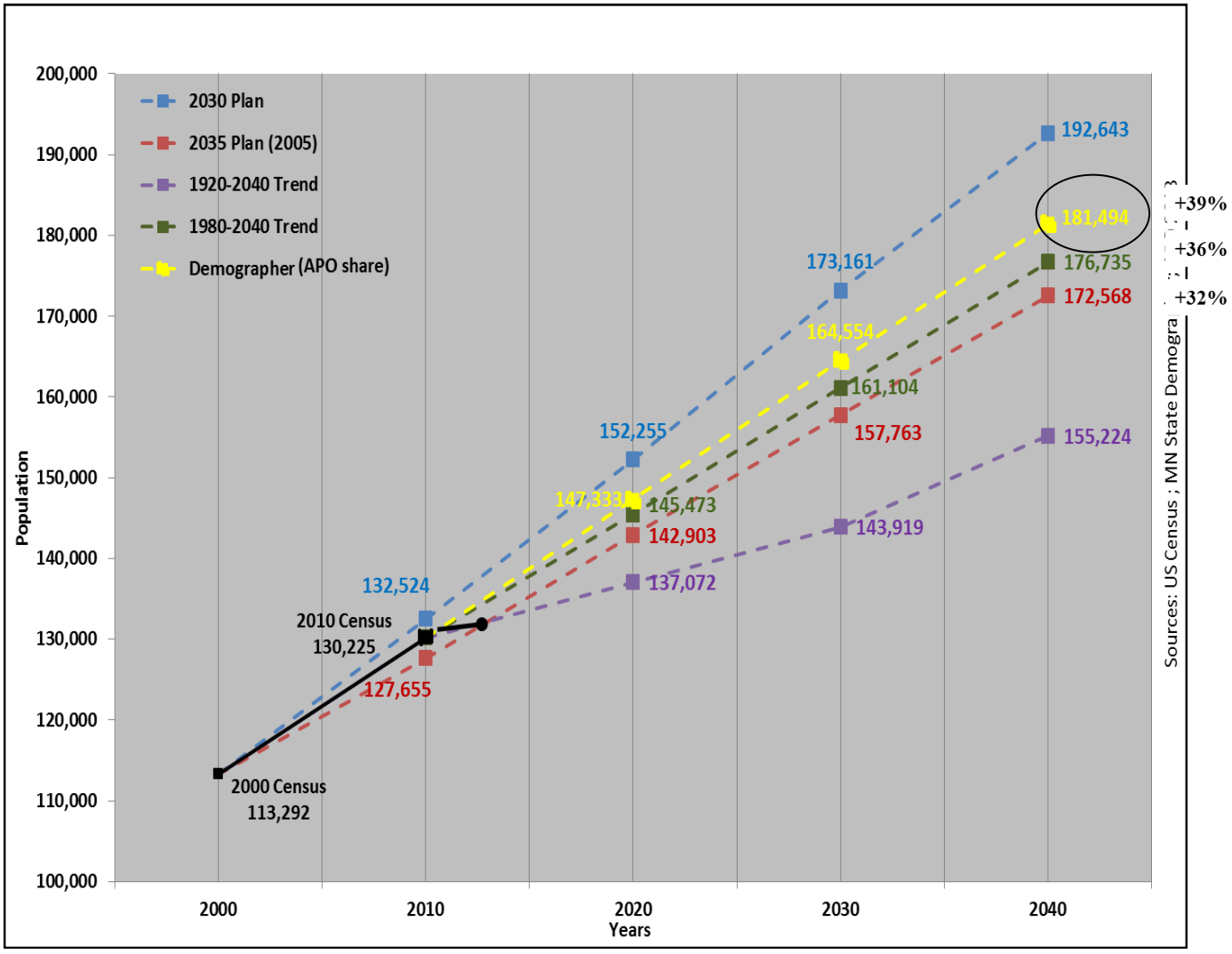
5.7 2040 Housing Forecast

Through permit records and the 2010 land use process the APO determined an approximately 60%-40% split of single family and multi-family housing units. As of 2010 there were 33,736 Single Family housing units and 20,431 Multiple Family housing units, combining for 54,167 total housing units. We again applied 20+ years of housing unit trends to forecast the total # of housing units in 2040. The APO applied a 60/40 ratio of Single Family to Multiple Family housing units as that ratio has remained relatively steady for 20+ years in the area. Of course that ratio may fluctuate over time with trends in the market. Additionally the State Demographer estimated that the 2012 persons per household number was 2.46 for the APO area. Based on 20+ years of national and local trends of declining persons per

5.8 2040 Population Forecast

Starting from our baseline population as of the 2010 Census the APO planning boundary population was 130,225, APO staff developed three mid-range population forecasts drawing upon the combination of past APO population forecasts, U.S. Census Bureau statistics (2010, and past) as well as Minnesota State Demographer forecasts. After drawing on these trends and comparing them along updated graphs the APO was able to project a series of alternative 2040 trend lines compiled in Figure 5-10. When compared to the 2035 forecast to the potential 2040 alternatives, The 2035 forecast overestimated housing units and thus the total square miles of land consumption. The most recent recession added in the APO's consideration to constrain 2035 projections. All three mid-range alternatives propose smaller increases than the 2035 Plan forecast. Upon balancing both short and long-term local and national trends the APO staff recommended either Alternative A (39% increase) or Alternative B (36% increase). In October, 2013 the TAC committee approved the 2040 population projection of 181,494 (Alternative A) which would be an increase of 51,269 or 39% from 2010-2040.

Figure 5-11: Comparison of Historic and Current APO Population Forecasts (2040)



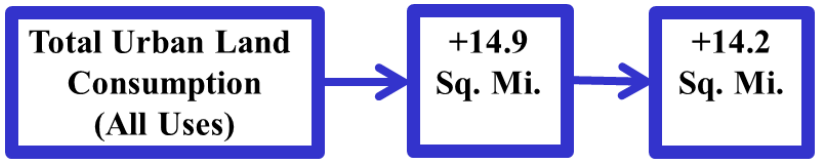
5.9 2040 Land Use Forecast

APO staff consulted with planners from all 11 member jurisdictions on their long range plans for development and growth trends. The APO compiled data and info from these plans and taking into consideration current zoning and both existing and planned infrastructure including highway projects made a full build-out map. Once this conceptual map was in place APO staff begun the process of constraining growth to align with the 2040 population forecast and associated development projections. Figure 11 illustrates the housing needed, based on existing densities, housing type ratios and persons per household that would be needed to support the 2040 population forecast. APO staff then projected the same growth forecast of 39%+ to existing square footage in Office, Retail, and Industry sectors. The APO then projected the square miles by land use needed to support the projected square footage by industry based on existing averages in the area. Economic trends in the APO area over various periods of 20, 10, and 5 years were also considered when compared to the proposed additional land use development needed as tied to the population forecasts. Additionally, unknown future transportation funding levels were considered in constraining land use growth. Preservation of existing infrastructure will demand a greater proportion of funding limiting expansion projects. As a result the APO concentrated future growth projections along existing and already planned roadway infrastructure, constraining development to match existing population, housing and industry ratios by jurisdiction.

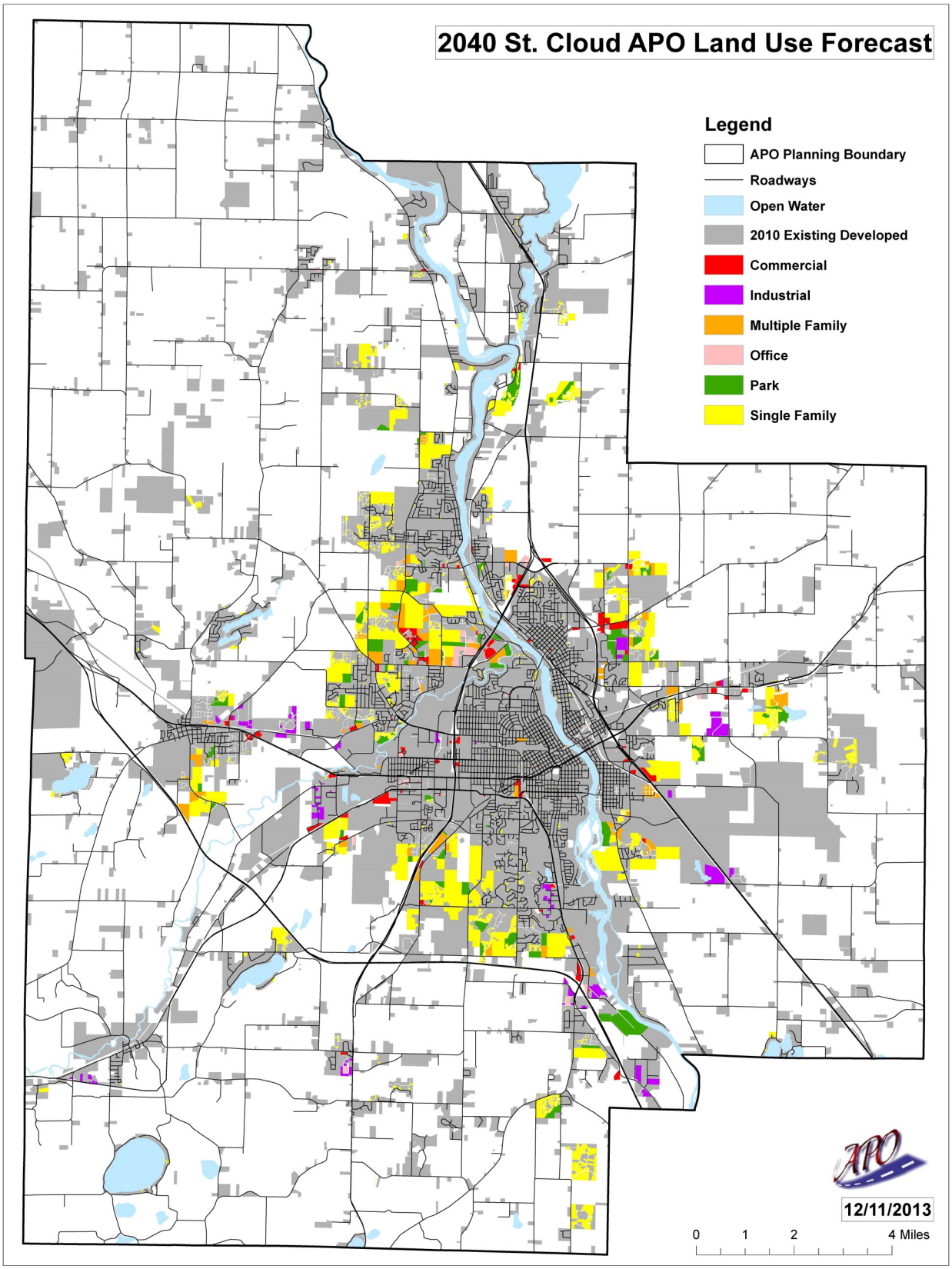
Figure 5-12: 2040 Growth Forecast Scenarios

Trip Generator/ Land Use	2040 Forecast Alternatives		
	(2010 + 39% Population) 2040 Alternative A	(2010 + 36% Population) 2040 Alternative B	(2010 + 32% Population) 2040 Alternative C
Single Family	+13,157 (62%) Dwelling Units	+12,145 (62%) Dwelling Units	+10,796 (62%) Dwelling Units
Multiple Family	+7,968 (38%) Dwelling Units	+7,355 (38%) Dwelling Units	+6,538 (38%) Dwelling Units
Total Dwelling Units	+21,125	+19,500	+17,334

Trip Generator/ Land Use	2040 Forecast Alternatives		
	(2010 + 39% Population) 2040 Alternative A	(2010 + 36% Population) 2040 Alternative B	(2010 + 32% Population) 2040 Alternative C
Office	+2,471,859 (18%) Sq. Ft.	+2,281,716 (18%) Sq. Ft.	+2,028,192 (18%) Sq. Ft.
Industrial	+6,528,651 (49%) Sq. Ft.	+6,026,447 (49%) Sq. Ft.	+5,356,842 (49%) Sq. Ft.
Retail	+4,383,292 (33%) Sq. Ft.	+4,046,116 (33%) Sq. Ft.	+3,596,547 (33%) Sq. Ft.
Total Office, Industrial & Retail	+13,383,802	+12,354,279	+10,981,581



Map 5-2: St. Cloud Metro Area Land Use Forecast Map (2040)



5.10 Breakdown of 2040 Projected Development

After considering the 2040 population forecast of 181,494 and coordinating closely with communities regarding known and pending developments in the APO planning area, the APO board approved a 2040 land use forecast of an additional 14.9 Square Miles of Urban Land Development going from 79.3 Sq. MI. in 2010 to 94.2 Sq. mi. in 2040.

Figure 5-13: 2040 Forecast by land use type and square miles of development

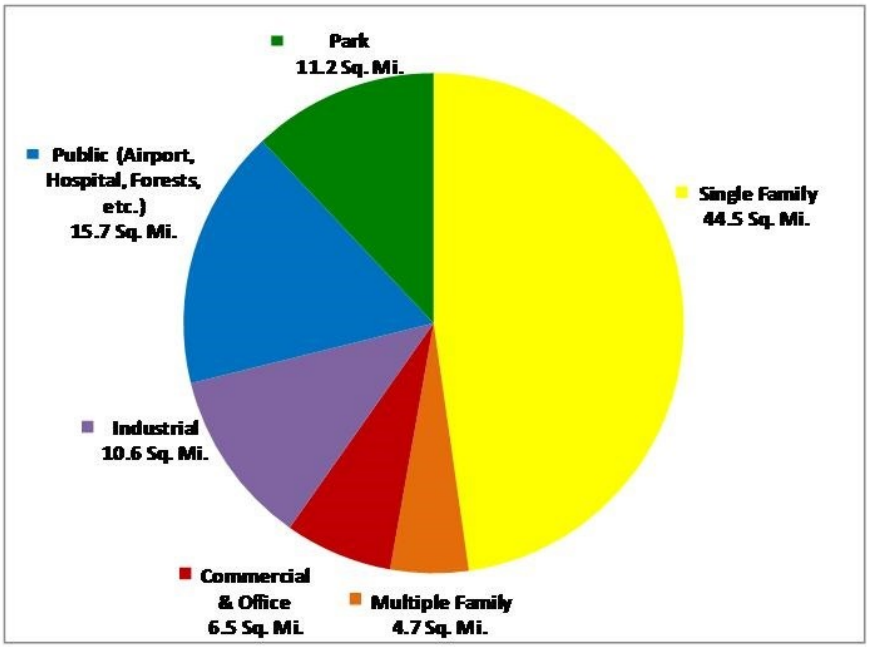


Figure 5-14: Existing (2010) and Forecasted (2040) urban land use development in square miles

Land Use	2010	2010-2040	2040
Single Family	35.4	9.1	44.5
Multiple Family	3.3	1.4	4.7
Commercial/Office	5.7	0.8	6.5
Industrial	9.8	0.8	10.6
Public	15.7	0	15.7
Park	9.4	1.8	11.2
Total	79.3	13.9	93.2

5.11 Existing and Forecasted Trips

After totaling the 2040 Land uses by square mile we used the most recent trip generation rates from the Institute for Transportation Engineers (ITE) manual to compute our total trips generated.

Figure 5-15: Existing (2010) and Forecasted (2040) trips

Land Use	2010 Trips	2040 Trips
Single Family	340,734	473,508
Multiple Family	124,629	173,240
Commercial	549,677	755,137
Industrial	99,015	135,359
Office	89,709	112,672
Total	1,203,764	1,649,916

5.12 Conclusion

The Roadway Transportation chapter will discuss how the trip generation results for the 2040 forecast effect our transportation projects based on congestion from forecasted trips. Appendix E at the end of this Plan is taken from a presentation made to the TAC in 2012 further outlying the connection between our 2040 population forecast and land use forecast 2040.

Chapter 6: Alternative Management Strategies

6.1 Alternative Management Strategies—Introduction

The urbanized area within the St. Cloud Area Planning Organization (APO) has increasingly become more contiguous. As these areas grow together, the opportunity for and the importance of coordinating alternative management strategies (e.g., bicycle, pedestrian, transit, and travel demand management) among jurisdictions increases. Coordinating these efforts as part of the APO's long-range transportation planning update is an important process. More importantly, local agencies, public/private associations, and roadway and transit authorities have the legal powers, resources and tools necessary to implement the various alternative management strategies that may be proposed as part of the long-range transportation plan. Therefore, coordination of and support for the APO's proposed alternative management strategies must be realistic, measurable and acceptable to various groups.

In addition to opportunities provided by the close proximity of the APO area, alternative management strategies can work together to reduce traffic volumes by maximizing the people moving capabilities of the transportation network, improving network efficiency and safety, and increasing the safety and carrying capacity of the network through low-cost (safety) system improvements.

6.2 Central Minnesota Commuter Study

As part of finding alternatives means to accommodate additional commuter traffic into the APO area, a general increase in transit should be reviewed. In 2012, MnDOT completed a commuter study for Central Minnesota. This study focused on existing transit services and facilities within the twelve counties in central Minnesota, in addition to evaluating new commuter transit services.

A number of commuter service corridors were identified for potential transit service or vanpool services. These corridors in respect to the St. Cloud metropolitan area include:

- Brainerd to St. Cloud
- Cold Spring via St. Joseph to St. Cloud
- Milaca to St. Cloud
- Sauk Centre to St. Cloud
- St. Cloud to Minneapolis

According to the study, only two of these corridors (i.e., Cold Spring via St. Joseph to St. Cloud and St. Cloud to Minneapolis) will approach the projected ridership threshold that would support regular commuter transit service. Other travel demand management strategies were also identified in the Plan as other viable travel demand management strategies (e.g., park-and-rides, van pools and ride-share programs) for the St. Cloud metropolitan area.

The Plan further identifies the opportunities and challenges for implementing certain travel demand management strategies. In particular, the plan states that implementing a regular commuter transit service in the St. Cloud metropolitan area has its benefits and challenges. For example, an agency must be responsible for operating and maintaining this type of service. St. Cloud Metro Bus and the St. Cloud APO have been identified in the study as a potential agency; however, funding, staffing, and resources

need to be identified to make this a viable option.

6.3 2040 Strategies

The purpose of this section is to document a list of suggested alternative management strategies to help identify the "best practices" that may be useful to the APO's partners.

Public Input

The APO with the help of SRF Consulting undertook a process to help develop and prioritize the following list of alternative management strategies. The process began at the November 13, 2013 public open house where 22 alternative management strategies were presented those in attendance. Participants were asked to choose their top three preferred alternative management strategies. The goal of this exercise was to help prioritize the list of alternative management strategies for further review by the TAC. The same type of voting exercise was also conducted at the December 3, 2013 Bicycle and Pedestrian Advisory Committee meeting. Combined, this voting exercise identified six priority alternative management strategies of:

- Bicycling Improvements
- Transit Improvements
- Mixed Use / Transit Oriented Development
- Complete Streets
- Park and Ride
- Traffic calming

A full summary of the voting exercise from the open house is included in the Public Input Chapter. These six strategies were then presented to and approved by the APO Transportation Advisory Committee (TAC).

Figure 6-1: Existing trail along Pine Cone Road North near Pine Meadow Elementary School in Sartell

Bicycling Improvements

There are many ways to improve cycling conditions and encouraging cycling activity, including improved design and maintenance of cycling paths and lanes, improved bicycle parking and changing facilities, and user education and information, and encouragement programs. Bicycle facilities and bicycle parking should be integrated throughout the region to support commuters and recreational needs.

Improvements should be integrated as part of roadway projects and new developments. Education is also an important tool in improving cycling throughout the region. Coupling increased education with improved facilities will encourage additional use of cycling facilities throughout the region.

More information and 2040 Plan recommendations can be viewed in the Bicycling and Pedestrian Chapter. Extensions of the Lake Wobegon Trail from St. Joseph to the east, the addition of on-road facilities on Cooper Avenue and all the efforts by local schools as part of the greater Safe Routes to School Initiative are all examples of efforts to improve cycling in the area.

Transit Improvements

Improving transit amenities throughout the St. Cloud APO will provide added benefits to the surrounding environment. These include reduced vehicle throughput, reduced pollution, and increased health benefits. Transit reliability is important in any region, especially to individuals dependent on transit services for transportation. Also, these improvements will make transit services more attractive to individuals who prefer alternatives that are comfortable, safe, and affordable. Transit improvement can be accomplished throughout the APO on existing routes and in areas where there is potential demand in order to encourage increased ridership. There are many ways to improve public transit service quality, including increased service speed, frequency, convenience, comfort, user information, affordability and ease of access.

Review the Transit Chapter of the 2040 Plan to see all the transit activities occurring. Some examples of recent transit improvements include Metro Bus' 2012 switch to compressed natural gas (CNG) for improved air quality and improved service reliabilities on Northstar Commuter service.

Figure 6-2: Bicycle and pedestrian ramp to the Sauk Rapids Bridge over the Mississippi River

Mixed Use / Transit Oriented Development

Due to the similarity between land use and transportation planning concepts, this strategy actually attempts to combine two popular principles into one. Transit Oriented Development (TOD) concentrates walkable, mixed-use growth around transit stations. Providing high-density activity centers near transit services and bicycle/pedestrian facilities encourages the use of alternatives modes of transportation. TOD can provide a number of benefits, such as increased transit ridership and fare revenue, reduced household driving and congestion, healthy and active lifestyles, and increased or sustained property values. Similarly Mixed Use development includes various design and development practices that create more accessible, walkable, multi-modal, and livable communities. People who live and work in such communities tend to drive less and rely more on alternative modes than residents of more automobile-dependent areas. By its very definition transit oriented development is mixed use.

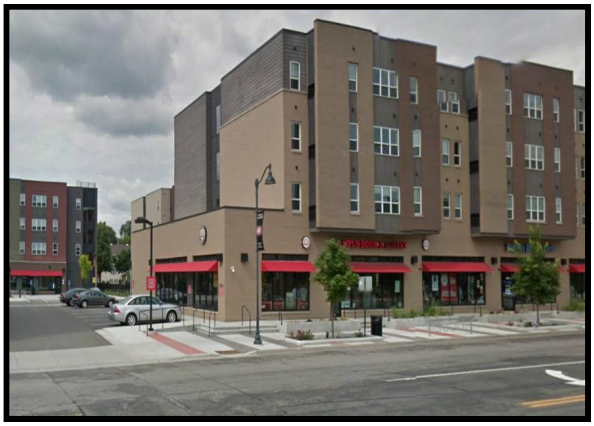
Through the use and development of this alternative management strategy people will become more inclined to walk and utilize transit for both short and long trips. Typical locations for this strategy to be utilized within the APO area include existing and future Metro Bus stations and near future Northstar Commuter Rail stops and existing Northstar Link Commuter Bus stations. Due to the nature of transit facilities and surrounding land uses a mixed use development or TOD could look very different dependent upon the location. Near Northstar facilities the density of uses could be very low and primarily residential with a small selection of local-serving retail. At Metro Bus stop locations the land use density could be relatively high with employment and entertainment opportunities available. This is the case in the 2010 opening of the 5th Avenue Live mixed use development. 5th Avenue Live offers over 60,000 square feet of retail and office space at the intersection of Division Street (2nd Street) and 5th Avenue South. Additionally, over 400 residential units are offered for students and non-students wanting to live between downtown St. Cloud and St. Cloud University along the Mississippi River.

Figure 6-3: 2011 Mayor's Bicycle Ride

Complete Streets

Complete streets ensure the transportation network accommodates all users including bicycles, public transit services, and pedestrians. Streets incorporating multiple travel choices (e.g., bike lanes, transit amenities, sidewalks, and safe crossings) within the initial street design result in supplemental benefits of decreased transportation related pollution, efficient connections between destinations, increased safety for all users, and increased capacity on the overall transportation network. Additionally, streets providing room for physical activities, such as bicycling and walking encourage health benefits and a sense of community. Complete street policies are beneficial in all areas of the St. Cloud APO; however, retrofitting projects may be expensive. Therefore, integrating complete street policies in the initial design phase of a project will result in cost savings.

Figure 6-4: 5th Avenue Live mixed use development



In 2010, the State of Minnesota Complete Streets law was passed and signed by the Governor. The law requires MnDOT to develop a policy and allows for variances in street design for both state highways and local streets. Since the law's passage, MnDOT continues to enhance the policy through the establishment of the Complete Streets Advisory Group and the refinement of policies effecting all roadway users, including bikes and those with disabilities. Locally, the St. Cloud APO and the City of Saint Cloud each approved a policy in 2011. A copy of the APO policy can be seen in the Bicycle and

Pedestrian Chapter. The St. Cloud policy supports the inclusion of sidewalks, bike lanes and trails, and transit facilities during street construction, reconstruction, repaving, and rehabilitation projects. As a result of the policy, the City has constructed some form of bicycle and / or pedestrian element with all new or total reconstructions. For example, the City of St. Cloud recently constructed a trail along Waite Avenue North that could become a part of the Lake Wobegon Trail.

Park-and-Rides

Park & Ride facilities are parking lots at transit stations and stops. They support ridesharing and public transit use. Park-and-ride facilities provide a central location for temporary vehicle storage and enable individuals to carpool or access multiple transit services. In turn, this removes single occupancy vehicles from the local transportation system.

Figure 6-5: Northstar Park and Ride East St. Cloud

Traditionally, when one thinks about a park-and-ride facility they are usually referring to a place in which a car, or personal vehicle, is parked and the individual then utilizes transit service for the remainder of their trip. This is the case for Northstar Link Commuter Bus which currently has a park and ride location on the east side of St. Cloud at intersection of US Highway 10 and Lincoln Avenue, with an additional location further down the corridor in Becker. Metro Bus does not have any official park and ride locations but some facilities like the Crossroads Center Bus Stop, completed in 2005, could act as such a facility. It is also possible to have a park and ride facility meant entirely for passenger vehicles and allows individuals to car pool. An example of this type of a facility is an unofficial lot owned by MnDOT near the intersection of Interstate 94 and Stearns County Road 2 (Exit 160) in St. Joseph.

Traffic Calming

Traffic calming strategies (e.g., roundabouts, narrowing lanes, curb extensions, and pedestrian refuges) help reduce speed and volumes in order to increase the safety of non-motorized travelers. The greatest impacts are found near major pedestrian and cycling generators, including residential neighborhoods, schools, and activity centers. Greater effects can be achieved when traffic calming designs are coupled with other improvements such as improved parking, sidewalks, bicycle paths, and transit services.

Traffic calming can also help create or define a space such as a gateway or neighborhood. One of the most common forms of traffic calming includes encouraging street trees and on-street parking in order to narrow the perceived width of the street and thereby slowing speeding vehicles. Another common strategy includes the installation of speed bumps or speed tables on low volume or residential streets. Most of the examples presented here represent expensive or significant changes to the physical infrastructure. But this is not the case all of the time. One of the quickest and cheapest forms of traffic

calming could simply involve making alterations to the driving lane lines.

Figure 6-6: One of many roundabouts constructed in the St. Cloud area.

Roundabouts are one traffic calming feature utilized recently in the St. Cloud APO. Roundabouts require traffic to circulate counterclockwise around a center island. Roundabouts are unlike traffic circles, in that they are used on higher volume streets to allocate right-of-way between competing movements. They are good for locations with a history of accidents, an abundance of right of way, and are inexpensive to operate as compared to traffic signals. For large vehicles (such as fire trucks) roundabouts can be difficult to navigate. They must also be designed so that the circulating lane does not encroach on the crosswalks and may additionally require the elimination of some on-street parking. One of the most interesting applications of a roundabout in the area includes the diverging diamond interchange on Stearns County Road 120 over State Highway 15. A diverging diamond interchange uses lanes that cross over at each end of the bridge to eliminate left-hand turns across opposing traffic. On either end of the interchange, on CR 120, drivers utilize roundabouts to access side streets and businesses.

6.4 Moving Forward

The six priority alternative management strategies presented here will help alleviate congestion management issues. For additional alternative management strategies a matrix has been provided in Appendix B. This matrix serves as an educational tool and identifies strategies for local partners to consider as implementation measures when addressing congestion. The APO will continue to work with and encourage the local agencies to implement these strategies where appropriate. To assist with this task the APO developed the "Alternative Management Strategy Checklist," provided in Appendix B. By reviewing this checklist when projects are considered or scored the APO will be able to better implement and correspond the long range transportation planning efforts with local governments' comprehensive plans, land use plans, livability and public health initiatives, and multimodal programs.

Innovative implementation of congestion management techniques can alleviate travel delay, increase safety, and improve the carrying capacity of our current transportation network. Success of this plan relies on collaborative and cooperative planning efforts between and among the jurisdictions within the St. Cloud APO Planning Area.

7.1 Development of Intelligent Transportation Systems (ITS)

This chapter provides a brief background on the development of ITS, Federal and State Policy on ITS, an update on regional ITS implementation, and potential future Projects. The primary definition and purpose of ITS is to provide innovative services relating to different modes of transport and traffic mgmt. and enable various users to be better informed and make safer, more coordinated, and 'smarter' use of transport networks. ITS has been utilized in such aspects of transportation mgmt. as crash prevention and safety, roadway mgmt., real-time traffic information updates, smarter vehicles, electronic payment and pricing for tolls and parking, transit mgmt., intermodal freight, etc.. Whatever the purpose, ITS advances the movement of people, goods, and services through safer, more efficient means.

Figure 7-1: Example of ITS Traffic Information

7.2 Federal Policy and Promotion of ITS

The Federal ITS program supports the overall advancement of ITS through investments in major research initiatives, exploratory studies and a deployment support program including technology transfer and training. Released in 2010, the five-year ITS Strategic Research Plan outlines a comprehensive vision focused on the theme of Transforming the Nation's Transportation System through connectivity. At the core of the research is a multi-modal initiative to enable vehicles of all types (cars, trucks, buses, trains, etc.) to communicate wirelessly with each other and with transportation infrastructure to alert drivers to potential hazards, helping to prevent potential crashes and provide other safety, mobility, and environmental enhancements. The ITS Joint Program Office (JPO) leads research activities. Each USDOT Modal Administration is responsible for participating in research activities and implementing the results of the research. FHWA promotes the installation of Intelligent Transportation System (ITS) infrastructure such as closed-circuit television cameras and electronic message boards and signs, lighting improvements, control of unauthorized access to critical locations., etc.. Additionally, MAP-21 goes further with ITS by providing technical assistance in the nationwide application of these systems.

7.3 Background of ITS in Minnesota

MnDOT's ITS program 'Guidestar', encompasses all of the ITS activities in Minnesota. Growing out of transportation technology enhancements in the 1980's, MnDOT partnered with the University of Minnesota Center for Transportation Studies (CTS) to establish a program that would build on the successes of the Freeway Mgmt. System and Traffic Mgmt. Center. Since its inception in 1991, Minnesota Guidestar has performed a broad range of ITS activities to assist in advancing ITS technology and programs to help achieve statewide and local transportation objectives. This success has been possible because Minnesota Guidestar has developed a strong partnership between the public sector, the private sector and academia, that have produced innovative and unique projects and methods of looking

at transportation issues. The Minnesota Statewide Regional ITS Architecture can be accessed at http://www.dot.state.mn.us/guidestar/2006_2010/regional_architecture/Volume%201%20-%20Overview.pdf

7.4 St. Cloud Area Existing and Potential ITS Implementation Projects

High-intensity Activated crosswalk (HAWK)

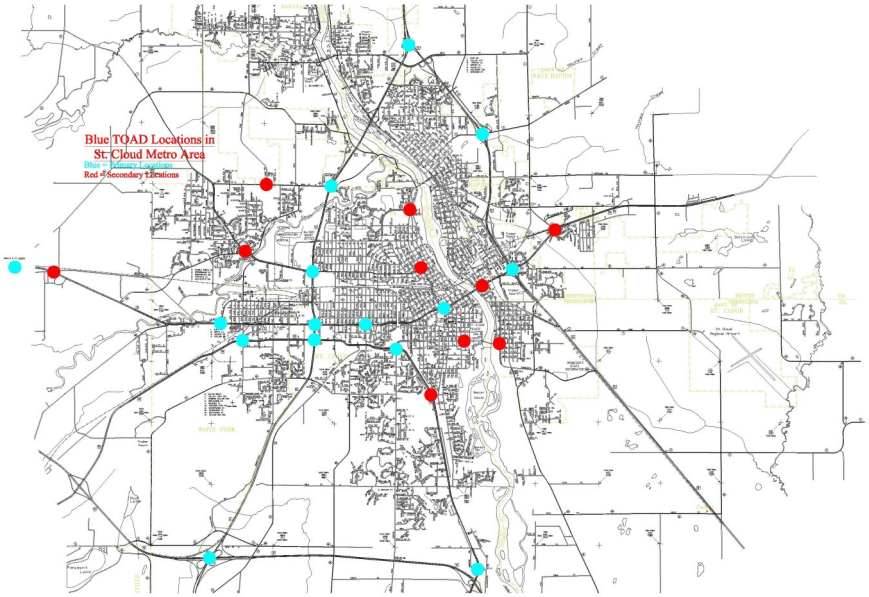
A HAWK signal is a traffic light that is activated by a pedestrian pushing a button. The purpose of a HAWK signal is to provide a safe pedestrian crossing at high-volume locations. When a HAWK signal is inactive and dark (unlit), it does not restrict vehicle movements on the underlying roadway and pedestrians are shown a DONT WALK signal. When a pedestrian activates the HAWK, then the signal starts flashing yellow, then steady yellow, then double red lights. Vehicles must slow for yellow and stop on red. At the same time, the pedestrian is given a WALK signal indicating it is safe and legal to cross the roadway. In October 2009, the 1st HAWK intersection in the APO area was implemented at Highway 23 and 12th Street South. This is a high volume area for motorists along Highway 23 as well as bicyclists and pedestrians looking to cross between Lake George, St. Cloud Tech High School and the new St. Cloud Regional Library. Area jurisdictions such as City of St. Cloud and Stearns County are looking into other area intersections where HAWK technology may be implemented in the future.

Figure 7-2: HAWK Intersection
(Trunk Highway 23 and 12th Street South—St. Cloud)

St. Cloud/Stearns County 'Blue Toad' Technology

'Blue Toad' and other similar technologies utilize Blue Tooth or Wi-Fi signals generated by on-vehicle devices. Nodes with this technology are placed on a roadway corridor typically at a signalized intersection. The 'MAC address' of the Blue Tooth or Wi-Fi device is detected and then matched at the next node with the same equipment. Travel times and origin/destination times can be determined using this data. This information is critical for determining the efficiency of traffic signal timing plans, traffic surges, vehicle incidents and vehicle routing. Arterial routes are very difficult to manually generate travel times due to man-power requirements and the variations due to limited data.

Map 7-1: 'Blue Toad' Technology Project Locations



City of St. Cloud Traffic Operations Center

Although not large in size, the St. Cloud traffic operations center has the capability to monitor many signalized intersections throughout the St. Cloud metro area. Autoscope cameras are being utilized by the Cameleon 360 software to allow multiple video images to be viewed on monitors at the TOC. A smaller work station is also utilized by the Traffic System's Manager to view several video screens as well. The Centracs System is at the heart of the traffic operations center with approximately 70 signalized intersections being connected to it. The City of St. Cloud also utilizes four PTZ cameras at key locations on the roadway systems in St. Cloud. The traffic operations center was developed in 2008 when closure of the TH 23 bridge over the Mississippi River necessitated real time video to monitor detour routes. The City of St. Cloud in conjunction with several other public agencies in the metro area has considerable amounts of fiber optic cable throughout the community. There are also several miles of dedicated traffic systems fiber throughout the metro area as well.

Figure 7-3: St. Cloud 'PTZ' Traffic Cameras

Transit Signal Priority (TSP)

In 2001, St. Cloud Metro Bus became the first and only transit system in the nation to have 100% transit signal priority coverage of all fixed routes. TSP operation began as part of a broader ITS implementation for the St. Cloud Traffic Operation Center Intelligent Transportation System project spearheaded by the City of St. Cloud and MnDOT. Prior to implementation across the entire network, significant testing was performed along the Southwest/Crosstown route to determine the impacts of implementing a transit priority system on the operational efficiency of transit and automobile traffic flows in the City of St. Cloud. Study of the results of this project helped build a consensus of support for a transit priority system. The study helped build the relationship between Metro Bus and operators of the area's signal systems. The agencies involved include the Minnesota Department of Transportation (MnDOT), City of St. Cloud, Stearns County, and the City of Sauk Rapids. Results of the test project were used to inform the decision makers and were critical in creating a consensus on the value of deploying transit priority. The TSP system has improved bus operations by reducing bus waiting time at traffic signals, which results in better transit service by helping buses maintain schedules and reach connection points at the proper time. Reduced signal delay also enables drivers to be less aggressive when meeting schedules and improves passenger comfort. Reduced traffic signal delays and improved overall service through schedule adherence makes transit a more attractive mode of transportation, which helps attract more customers. The application of TSP throughout the St. Cloud area will help maintain the current level of service as traffic volumes and congestion continue to grow and delay increases. The transit priority system includes equipment both on the bus and at traffic signals. Mounted on the bus is an emitter that transmits an infrared signal, which with the aid of a smoked colored filter, is not visible to the motoring public. At the traffic signal, there is equipment to detect and interpret the emitter signal and to inform the traffic signal controller of the approaching bus.

The traffic signal controller then responds to the call by providing additional green time to the bus. The traffic signal equipment for transit priority also provides capabilities for emergency vehicle detection for fire and police vehicles and ambulances. Transit priority has less drastic impacts on traffic signals than emergency vehicle detection does. The upgrade of signal equipment is beneficial both to the agencies operating the traffic signals and to fire and police departments. The equipment upgrade also provides the signal operating agencies with new and more reliable, capable and user-friendly equipment. The TSP system was deployed at 90 signalized intersections. The application of TSP throughout the St. Cloud area will help maintain the current level of service as traffic volumes and congestion continue to grow and delay increases. The transit priority system includes equipment both on the bus and at traffic signals. Mounted on the bus is an emitter that transmits an infrared signal, which with the aid of a smoked colored filter, is not visible to the motoring public. At the traffic signal, there is equipment to detect and interpret the emitter signal and to inform the traffic signal controller of the approaching bus. Deployment of the TSP system has resulted in significant upgrades of the traffic signal equipment, including 32 new and more capable traffic signal controllers, 6 new traffic signal cabinets, 28 additional intersections equipped with emergency vehicle preemption, and improved communication in the ***icons*** traffic signal management system. The project has resulted in an easier-to-maintain, more flexible and more capable traffic signal system for the St. Cloud area. It has also improved public safety by expanding and upgrading the emergency vehicle preemption system that is used by fire, police and ambulance vehicles. Bus travel time data were collected and analyzed for one bus route during this project. Analysis results showed average bus delay per traffic signal was reduced from 23.4 seconds to 13.5 seconds. The 9.9 second delay reduction per signal represents 42% of the total delay. The project was funded by grants from the Federal Transit Administration and the MnDOT Intelligent Transportation Systems Office. The local agency contributions were in the form of in- kind services to help install, program and maintain the new equipment.

Car Sharing

Car sharing is a model of car rental where people rent cars for short periods of time, often by the hour. They are attractive to customers who make only occasional use of a vehicle, or for one-way trips; as well as others who would like occasional access to a vehicle of a different type than they use day-to-day. The organization renting the cars may be a commercial business or the users may be organized as a company, public agency, cooperative, or ad hoc grouping. As telecommuting is increasing and car ownership rates are declining across the country, 'Car Sharing' is rapidly growing as a new transportation option. Many consumers are increasingly finding that paying a very low monthly fee with no commitment preferable to the burden and responsibility of car ownership. Car sharing has existed in larger metros including the Twin Cities for years and continues to grow in popularity with several different companies competing for market share. Car Sharing may be introduced to the St. Cloud region within the next several years as the success within the Twin Cities starts to expand outstate. Car Sharing may be a viable complementary transportation option for our region's many college students, commuters connecting to Northstar, or the St. Cloud Airport and visitors to the Convention Center, etc.. The APO encourages Multi-modal transportation options and would support efforts in the future to attract 'Car Sharing' companies to the St. Cloud region.

Electronic Parking Meters

As many people have increasingly been using check and credit cards for all transactions, many cities including Minneapolis have successfully transitioned from change reading to electronic parking meters over the last several years. In downtown areas, college campuses and commercial districts, implementation of electronic parking meters allows commuters flexible pay options that are more visitor friendly and may help to increase tourism and other business.

Figure 7-4: Electronic Parking Meters

7.4 Moving Forward

The APO will better coordinate with member jurisdictions and MnDOT to learn about recent market trends in ITS and Travel Demand Management (TDM) as well. The APO supports careful implementation of ITS where it is most needed and can make an impact. The APO will support member jurisdictions in studying potential impact of ITS projects and where they may be most suitable.

Chapter 8: Roadways

8.1 Roadways—Introduction

This chapter documents the process used to prepare the APO's fiscally constrained project list and presents the recommended improvements for the future roadway network that can be planned within the forecasted financial resources. Many projects were considered, with a project prioritization process used to screen projects further down to the resultant recommendations. This process was informed by a roadway system inventory and several technical analyses (e.g., safety, congestion management and build condition scenario testing), with direction provided by the Technical Advisory Committee (TAC) throughout. More importantly, the fiscally constrained project list included coordination and outreach with local and state DOT staff aimed at addressing previously identified system deficiencies, as well as maintaining consistency with federal and state planning policies. This chapter contains the following:

- System Inventory
- System Analysis
- Technical Analysis
- Recommended Improvements

The APO set the following funding split for the 2040 Long Range Transportation Plan: 35 percent for capacity expansion improvements, and 65 percent for preservation improvements. This was done in recognition of a more balanced transportation system that provides more funding to maintain the current system and implement low-cost/high-benefit improvements; it sets the direction for all transportation investments within the Plan. Ultimately, the approved build alternative (recommended improvements) includes the most regionally significant capacity improvements, while still providing funding for congestion management system planning and preservation, access, mobility and safety improvements, with multimodal solutions. The build alternative improves system connectivity, maximizes investments for the movement of people and freight and improves safety of all transportation modes and users.

8.2 System Inventory

Functional Classification

The St. Cloud Metropolitan Area is interspersed with a system of local streets, collector roadways, minor arterial roadways and principal arterial roadways. This system inventory section includes an evaluation of the APO's functionally classified roadways. This evaluation provides an understanding of the roadways that are eligible for federal funds. Federal-aid eligible roadways within the APO boundary area are defined as Minor Collector and above for urban roadways and Major Collector and above for rural roadways. These classifications are further defined below:

Principal Arterials

- Connect major activity centers
- Provide significant continuity at a regional level
- Serve long distance trips

- Provide limited access and high speeds
- Serve regional or statewide travesheds

Minor Arterials

- Connect key activity center
- Provide continuity on a sub-regional level
- Serve medium to long distance trips
- Provide limited access and high speeds
- Serve regional travelsheds

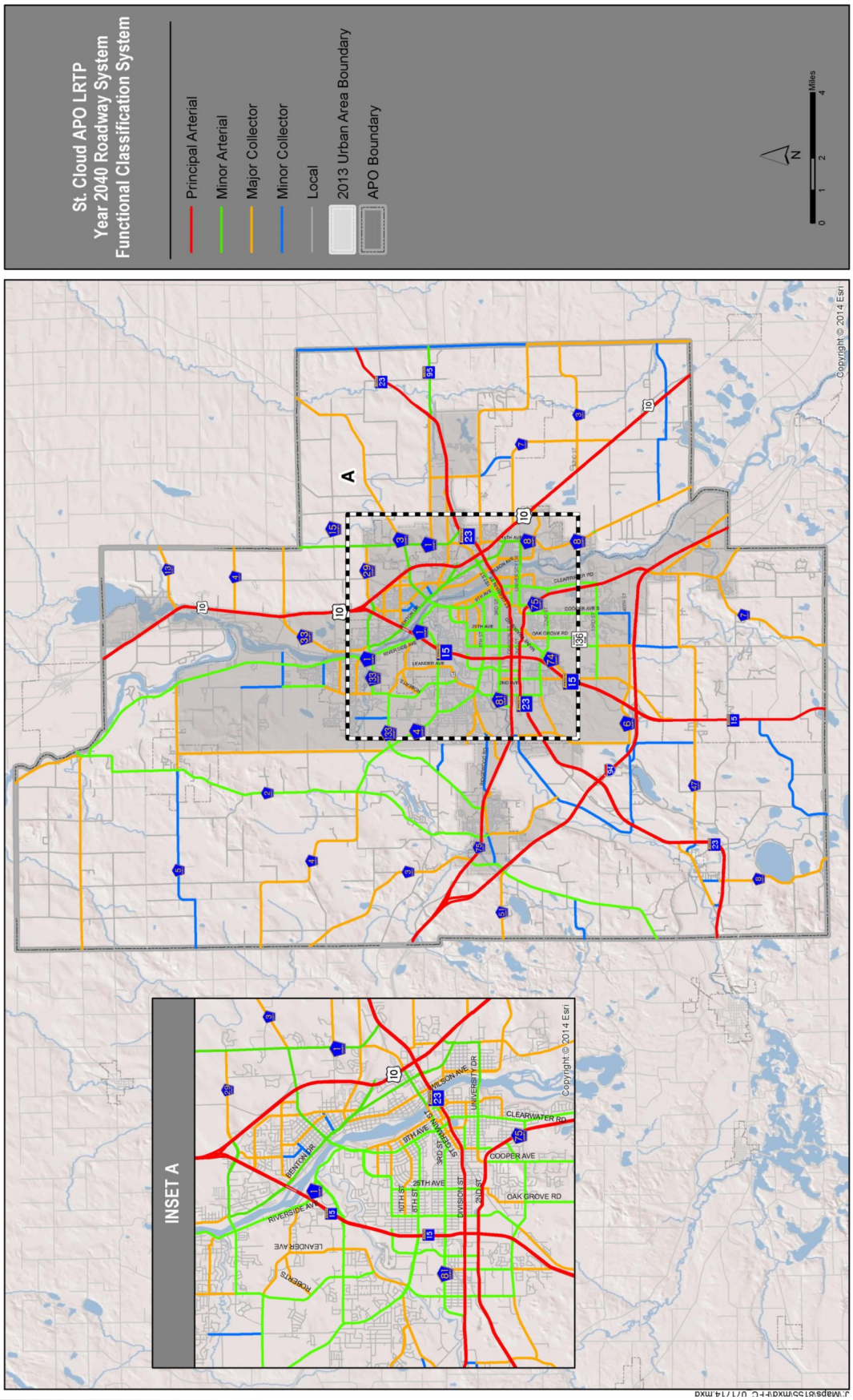
Collectors

- Connect local activity centers to arterials
- Provide increased continuity at a local level
- Serve short to medium length trips
- Balance emphasis of access and mobility
- Provide access to localized areas

Local Routes

- Connect neighborhoods, businesses and schools
- Provide access to higher-order roadways
- Provide lowest degree of continuity
- Allow closely spaced access points
- Provide direct access to property
- Serve limited travelsheds

The majority of long trips within the Metro Area rely on a north/south or east/west grid system of minor arterials and other minor arterials that radiate out of this grid from the urban core. Principal arterial roadways that feed traffic in, out and through the Metro Area include Interstate 94, U.S. Highway 10, MN 15, and Stearns CSAH 75. Based on the approved functional classification system (see Map 8-1), the APO Area has approximately 420 federal-aid eligible center lane miles. More importantly, the APO's approved functional classification system aligns with Federal Highway Administration's Functional Classification Guidelines (see Figures 8-1 and 8-2).



Map 8-1: Functional Classification System

Figure 8-1: FHWA Functional Classification Guidelines: Rural

Functional Classification System		Center Lane Miles	Percent	FHWA Percent of System Mileage Guidelines		Deviation
Principal Arterial	Interstate	15	3%	1 - 3 %	3 - 11 %	Within Range
	Other Freeways & Expressways	14	3%	0 - 2 %		
	Other Principal Arterials	12	2%	2 - 6 %		
Minor Arterial		31	6%	2 - 6 %		Within Range
Major Collector		88	16%	8 - 19 %	11 - 34 %	Within Range
Minor Collector		37	7%	3 - 15 %		
Local		353	64%	62 - 74 %		Within Range
Total		549	100%			

Figure 8-2: FHWA Functional Classification Guidelines: Urban

Functional Classification System		Center Lane Miles	Percent	FHWA Percent of System Mileage Guidelines		Deviation
Principal Arterial	Interstate	6	1%	1 - 3 %	5 - 14 %	Within Range
	Other Freeways & Expressways	14	2%	0 - 2 %		
	Other Principal Arterials	35	5%	4 - 9 %		
Minor Arterial		78	11%	7 - 14 %		Within Range
Major Collector		80	11%	3 - 16 %	6 - 32 %	Within Range
Minor Collector		12	2%	3 - 16 %		
Local		510	69%	62 - 74 %		Within Range
Total		734	100%			

Access Management

Access management is a strategic, multi-dimensional set of policies, methods and tools to manage connectivity to public roadways from various types of land uses. Access management seeks to provide an appropriate balance between mobility needs and connections to property. Good access management supports a wide array of transportation system goals. These goals include creating a safe travel environment for all modes and users of transportation systems, encouraging a balance of roadway capacity and accessibility, and encouraging an active transportation system (e.g., integration of multimodal facilities, and context sensitive design principles).

Providing access management in some form (whether it is through grade-separated crossings, frontage roads, or right-in/right-out access) reduces the number of conflict points, which results in improved safety. Many studies have demonstrated a direct relationship between the number of full access points and the rate of crashes. Further, full access points typically have higher crash severity rates due to the types of movements that are allowed (i.e., left-turn movements from the side-street, which can result in more serious collision types). Access management also plays an important role in maintaining roadway capacity and maximizing mobility, while supporting the functional classification system. Thus, the APO has adopted a set of access management guidelines that supports the functionally classified system. This section provides greater detail on access management components, and the APO's strategies and guidelines.

Access Management Components

Some of the most significant roadway characteristics to be addressed by a comprehensive set of access management guidelines are related to functional classification, intersection characteristics, the number of driveways, and traffic signal spacing.

Functional Classification and Mobility

Functional classification divides roadways into a variety of categories (or classes) based on their intended purpose. In addition to defining the relative importance of a road, these classifications define how a road functions within the overall transportation network. The functional classification system consists of principal arterials, minor arterials, collectors, and local streets.

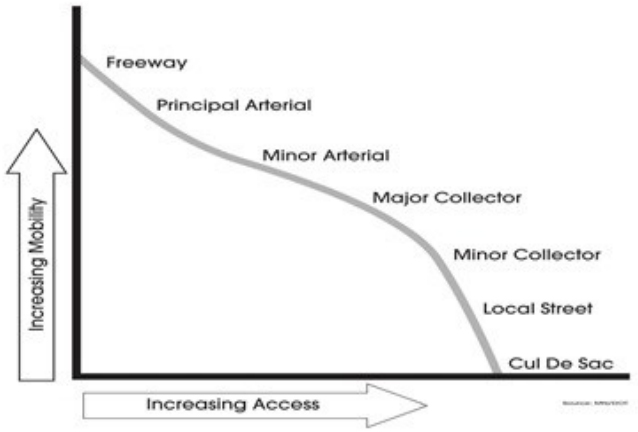
In an efficient roadway network, the various roadway facilities work together to serve the needs of the traveling public; as the proportion of arterials, collectors, and local streets is balanced to provide system continuity and connectivity. For example, a system comprised of all local streets with many roadway access points would not allow for safe and efficient movement of through traffic that travels at higher speeds. Conversely, a system of too many arterials would not provide adequate land access for commercial and residential developments. Figure 8-3 demonstrates the relationship of functional classification relative to how each generally fits into a mobility/access hierarchy.

Figure 8-3: Role of Functional Classification in Access Management

Functional Class	Intended Mobility/ Accessibility Role	Primary Function	Typical Trip Length	Typical Intersection Control	APO Roadway Examples
Principal Arterials	Emphasizes mobility and employs very strict access control	Serves major activity centers and supports high traffic volumes	Through traffic (longest trips)	Interchanges	I-94 TH 10 TH 15 TH 23
Minor Arterials	Less access control than a Principal Arterial; however, access is still limited to allow for strong mobility	Serves smaller activity centers, connects to Principal Arterials, and carries moderate traffic volumes	Short to medium trips	Signalized Intersections and/or Roundabouts	10th Avenue (Waite Park) University Drive (St. Cloud) Pine Cone Road (Sartell)
Collector Streets	Emphasizes a balance between mobility and access needs	Moves traffic from local streets to arterials and serves moderate traffic volumes	Short trips	Controlled Intersections (Stop signs; traffic signals, if warranted)	Centennial Drive (St. Cloud) Summit Avenue (Sauk Rapids)
Local - City Streets	Emphasizes access over mobility	Serves local, neighborhood-level trips, connects to collectors, and supports low traffic volumes	Short trips	Controlled and uncontrolled intersections	Neighborhood streets throughout the APO area
Local - Township Roads	Balance of access and mobility is more subjective, as these roads serve both local and through traffic needs	Moves rural traffic, which is typically low-volume; however, some facilities carry moderate volumes	Trips may be limited to small subarea traffic or may serve as collectors and minor arterials	Controlled and uncontrolled intersections	30th Street North (Le Sauk Township) 45th Avenue SE (Haven Township)

Figure 8-4 graphically summarizes the direct relationship between functional classification and roadway mobility and access.

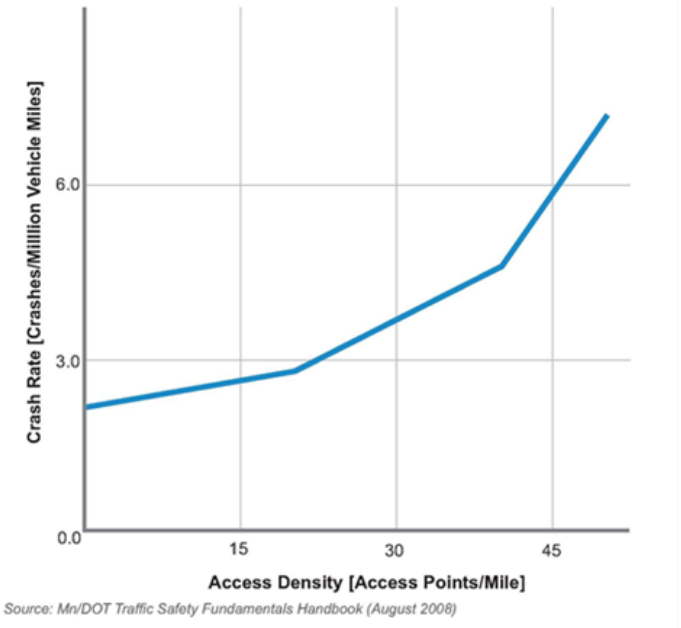
Figure 8-4 Access/Mobility Relationship



Intersection/Driveway Spacing/Conflict Points

As the number of roadway intersections per mile increase, the opportunity for crashes increases. The existence of too many intersections per mile also increases delay and congestion for automobiles, transit, and freight. Figure 8-5, from MnDOT's Traffic Safety Fundamentals Handbook, describes the relationship between lower access density and reduced crash rates.

Figure 8-5 Access Density and Crash Rate Relationship

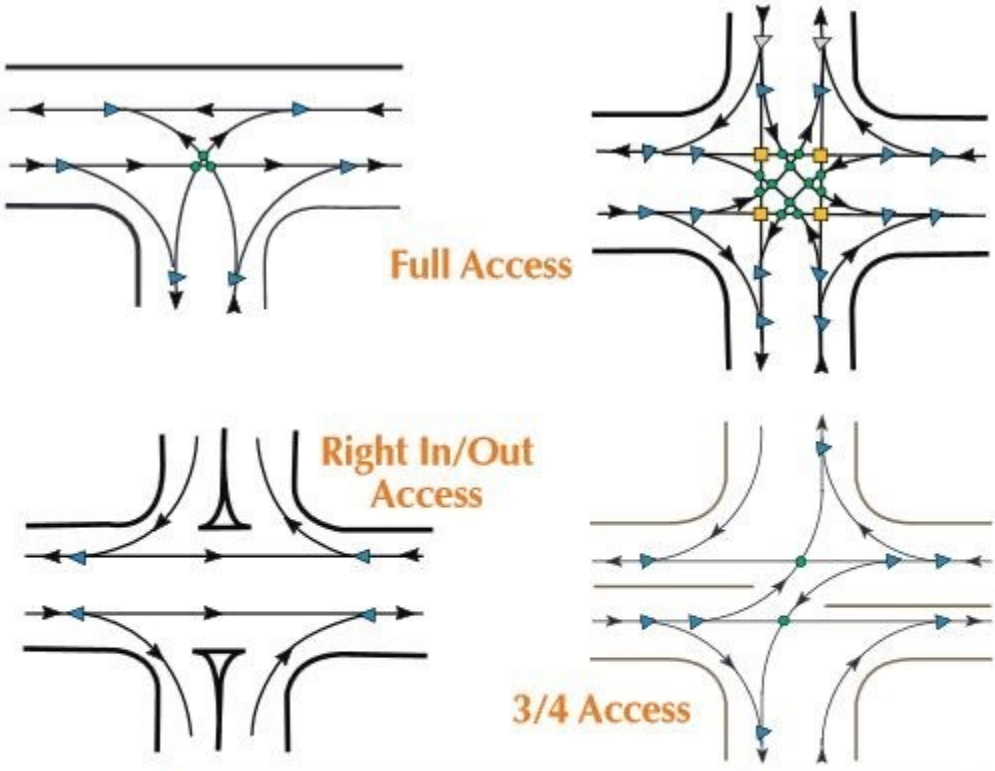


Driveways for residential or commercial properties can also be considered a special type of intersection. Driveways should not be located within the functional area of an intersection. The functional area of an intersection is that area beyond the physical intersection of two roadways that comprises decision and maneuvering distance. Driveways located within the functional area may create too many conflict points within too small an area for motorists to safely negotiate. Driveway access should be limited in general.

Safety is also related to the number of conflict points at an intersection. Conflict points occur at access approaches where the intersection paths of two through or turning vehicles merge, diverge, or cross. Each of these conflict points is a potential location for a crash.

The total conflict points at an intersection depend on the number of approach legs at the intersection and allowable turning movements (i.e. full or partial access), as illustrated in Figure 8-6. For example, a four-legged intersection (two-way intersecting roadways with full access) has a total of 32 conflict points as compared to four (4) conflict points for a similar intersection with right in/right out (RIRO) access.

Figure 8-6: Conflict Point Diagram (Source: MnDOT Traffic Safety Fundamental Handbook – 2008)

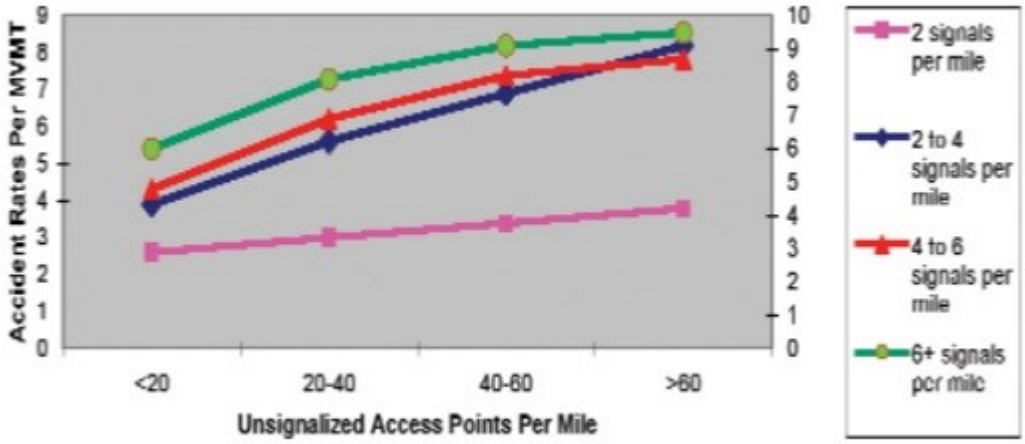


	Crossing	Turning	Merge/ Diverge	Total
Full Access +	4	12	16	32
Full Access T	0	3	6	9
3/4 Access	0	2	8	10
Right In/Out Access	0	0	4	4

Signal Spacing

Research clearly indicates that access and safety are highly correlated. Furthermore, comparative accident rates document that a greater number of access points and signals per mile translate into increases in crash rates. For example, if the number of access points are held constant at less than 20 unsignalized access points per mile, and the number of signals per mile is less than two, as compared to two to four signals per mile, there is a 50 percent increase in the crash rate (see Figure 8-7). Thus, a proliferation of traffic signals or improved signal spacing along a corridor can impact crash rates.

Figure 8-7: Representative Crash Rates (Unsignalized Access vs. Signalized Access)



Access Management Guidelines

Access management is the ultimate balance between connectivity, mobility, safety, intersection spacing, driveway allowance, and signal spacing. Limiting access to the transportation network too severely can result in longer trip lengths (increased vehicle miles traveled) causing more congestion on busy arterials, longer delays at arterial intersections, and degradation of emergency vehicle response times. However, too many access points increase the potential for crashes, reduces mobility, and the capacity of a corridor. The APO's Access Management Guidelines balance access and mobility by functional classification and level of development (see Figure 8-8). Note that while the APO provides the Access Management Guidelines contained herein for use by any jurisdiction within the APO, all jurisdictions must refer to the MnDOT Access Management Manual when addressing State owned facilities.

Practices to Manage Future New Access

Putting access policies into practice as land develops requires close coordination between the APO, State, and local partners, including land use staff at the local level. By working closely with land use planners, the APO can ensure that new development occurs consistent with access management guidelines and best practices. Strategies to employ when working with new development proposals include:

- Encouraging shared driveways and internal circulation plans: If indirect access cannot be achieved during plat reviews, internal site circulation should be promoted using shared access points.
- Restrict turning movements to reduce conflicts: If access points cannot be eliminated, consider turning movement restrictions (e.g., left-in or right-in/right-out only) through installation of raised medians or other channelization or signing. Eliminating a single turning movement can significantly reduce vehicle conflicts and crashes.
- Develop good parallel street systems for carrying local traffic: Make sure that important arterial routes have parallel roads that provide local access and carry shorter local trips.

- Develop proper setbacks for future frontage roads: If frontage roads cannot be immediately justified (benefits do not outweigh costs), make sure that proper building and parking lot setbacks are established to minimize the impacts of future frontage roads.

- Develop proper signalized intersection spacing: Ensure that plats and new development proposals provide proper intersection spacing for future signals. Signalized intersections should be limited depending upon the type of street. Collector streets should provide continuity with other street systems.
- Encourage proper lot layout to minimize access points: Promote direct residential access points onto local roads instead of onto arterials or major and minor collectors. Direct residential access onto arterial or collector routes slows traffic flow and can result in complaints when traffic levels increase.
- Encourage connectivity between developments: Streets in individual developments should be aligned to provide access to other developments and right-of-way should be provided for future connections to adjacent developments. This promotes neighborhood connectivity, good emergency services and more efficient travel for mail, garbage, and bus services as well as street maintenance activities.

Figure 8-8: St. Cloud APO Access Management Guidelines (*) (**)

	Urban Core (Downtown)				Urbanized Area				Rural Area			
Functional Classification	**Principal Arterial**		**Minor Arterial**	**Collector**	**Principal Arterial**		**Minor Arterial**	**Collector**	**Principal Arterial**		**Minor Arterial**	**Collector**
Typical Facility Characteristics/ Configuration	Interstate/ Freeway	Non-Freeways	4-Lane Divided/4-Lane Undivided	4-Lane Undivided/ 3-Lane/2-Lane	Interstate/ Freeway	Non-Freeways	4-Lane Divided/4-Lane Undivided	4-Lane Undivided/ 3-Lane/2-Lane	Interstate/ Freeway	Non-Freeways	4-Lane/2-Lane	2-Lane
Intersection Design/ Control	Interchanges Only	Interchanges/ Traffic Signals / Innovative Intersections (1)	Traffic Signals/ Stop Sign Control	Traffic Signals/Stop Sign Control	Interchanges Only	Interchanges/ Traffic Signals / Innovative Intersections (1)	Traffic Signals/Stop Sign Control	Traffic Signals/ Stop Sign Control	Interchanges Only	Interchanges/ Traffic Signals	Traffic Signals/ Stop Sign Control	Stop Sign Control
Intersection Spacing (2)	1 Mile	1/2 Mile	330' – 660'	330' – 660'	1 Mile	1/2 Mile	1/4 Mile	1/4 Mile	1 Mile	1 Mile	1/2 Mile	1/2 Mile
Driveway Spacing (3)	NA	1/4 mile	330'	150'	NA	1/4 mile	660'	660'	NA	1/2 mile	1/4 Mile	1/4 Mile
Minimum Signal Spacing	NA	1/2 mile	1/4 Mile	1/8 to 1/4 Mile	NA	1/2 Mile	1/4 Mile	1/4 Mile	NA	1 Mile	1/2 Mile	NA

* All distances are potential minimums. Individual corridors will be handled on a case by case basis.

** When addressing State owned facilities, refer to MnDOT Access Management Manual

[1] Reduce Conflict Intersections (RCI), "Loons", etc.

[2] Primary full movement intersection

[3] Consolidate driveways whenever possible

8.3 System Analysis

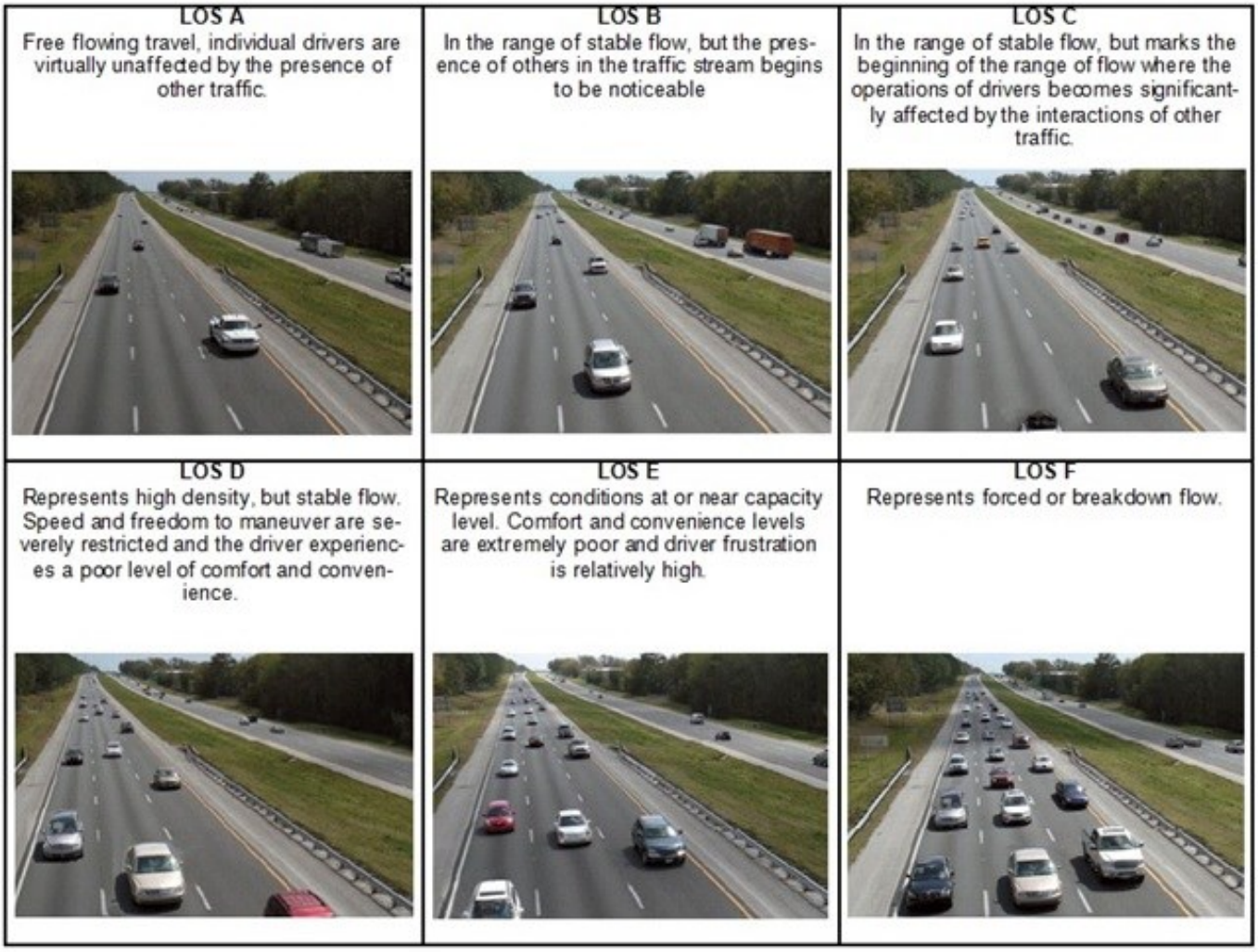
The primary analytical tool for determining transportation improvements within this Plan is CUBE, a travel demand computer model. CUBE is computer assessment software that provides a better understanding of the interrelationships among land use, population growth, roadway characteristics, travel demands, traffic circulation and traffic congestion. The travel demand modeling process is a very valuable tool to inform the public where future system improvements will be needed. Thus, the model was used to evaluate existing and future Levels of Service (LOS). LOS is a term used to qualitatively describe roadway operations and levels of congestion. This is determined by comparing a roadway's facility type with planning level threshold volumes (see Figure 8-9). Thresholds can vary for individual roadway segments, depending upon the number and spacing of access locations, parking conditions, signal spacing, sight distance and other roadway characteristics. Evaluating a roadway's capacity with the average daily traffic (ADT) volumes provides a volume to capacity ratio, which is associated with a roadway's LOS (Figure 8-8). The current base year 2010 ADT volumes are depicted in Maps 8-2 and 8-3.

The planning level threshold volumes deemed to be acceptable for various roadways within the APO is relative to a LOS D or better. These volumes were used in the modeling of different transportation alternatives to determine system performance, which is discussed in the technical analysis section of this chapter.

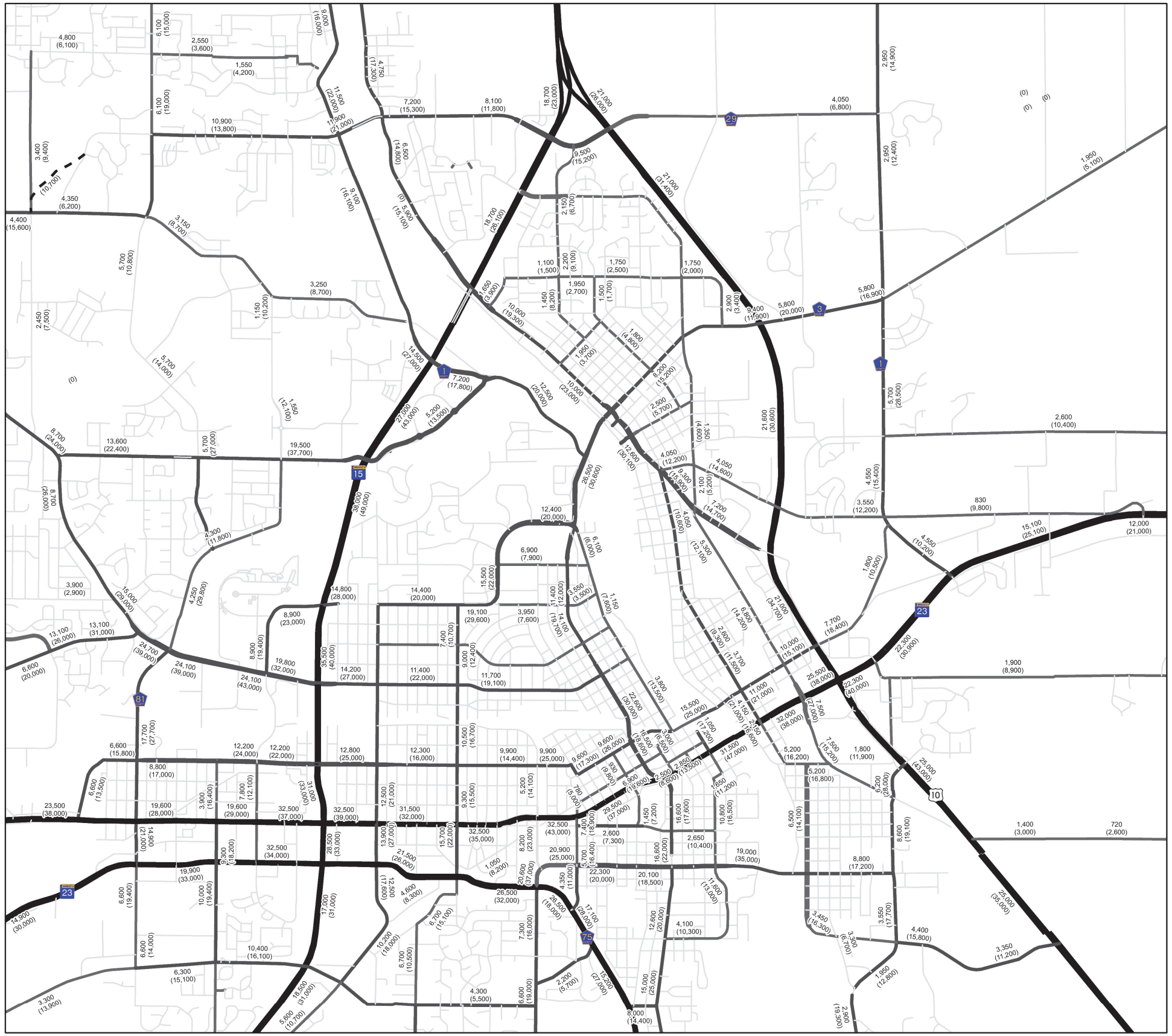
Figure 8-9: Planning Level Threshold Volumes and Average Daily Traffic

Roadway Facility Type	Average Daily Traffic (ADT)
2-Lane Urban Street	10,000 ADT
3-Lane Urban Street	15,000 ADT
4-Lane Undivided Urban Street	20,000 ADT
4-Lane Divided Urban Street	35,000 ADT
4-Lane Expressway	40,000 ADT
6-Lane Divided Urban Street	50,000 ADT
6-Lane Expressway	55,000 ADT
4-Lane Freeway	60,000 ADT
6-Lane Freeway	100,000 ADT

Figure 8-10: Traffic Flow Characteristics by Level of Service and Volume/Capacity Ratio

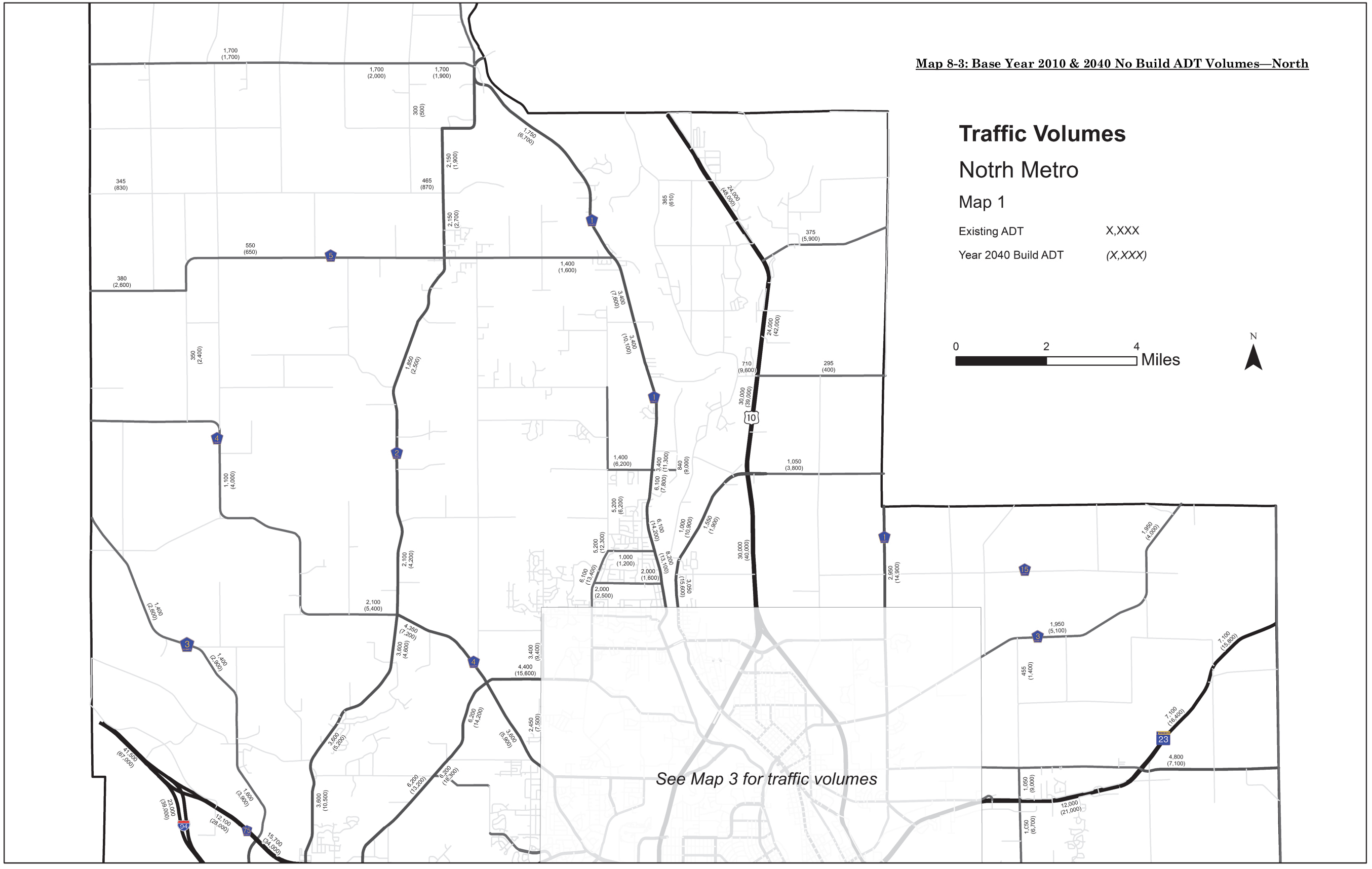


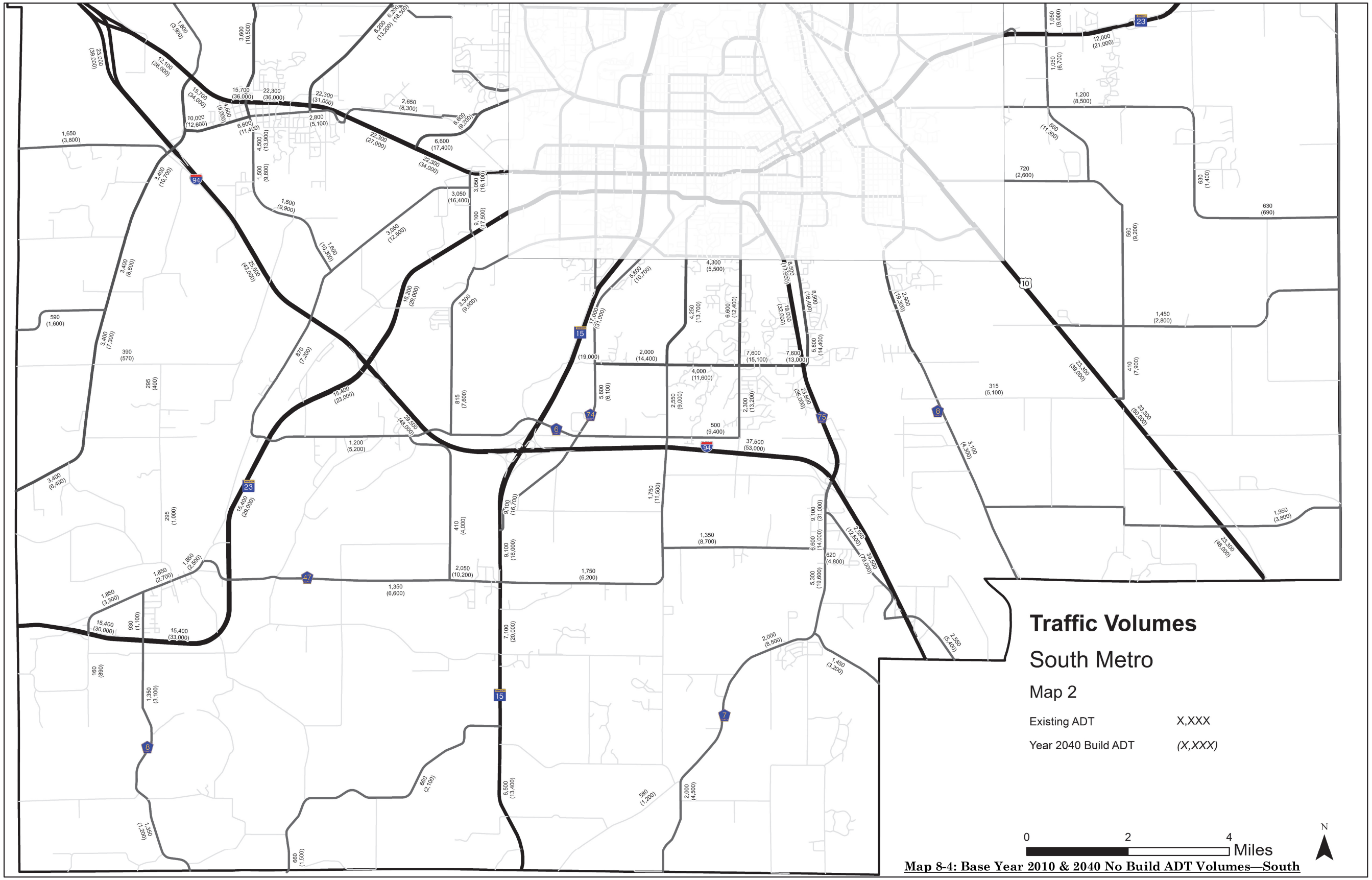
The base model year was updated from the previous year 2005 base to the current base year 2010, including appropriate trip generation and transportation network improvements within this timeframe. The future year 2040 forecast year was also updated based on the Plan year (see Map 8-2 through 8-4). The resultant CUBE model assignment replicates where average weekday congestion is currently occurring and where 2040 travel demands are forecasted to exceed roadway capacity based on volume to capacity ratios.



Map 8-2: Base Year 2010 & 2040 No Build ADT Volumes—Central

Map 8-3: Base Year 2010 & 2040 No Build ADT Volumes—North





Map 8-4: Base Year 2010 & 2040 No Build ADT Volumes—South

8.4 Technical Analysis

Throughout the planning process, various technical reports were prepared to document the state of the system and assess future conditions. This process focused heavily on congestion management system planning and transportation system corridor volume to capacity assessment (LOS D or better versus system deficiencies LOS E or F). A summary of these findings are highlighted throughout this section.

Congestion Management System Planning

A top priority of the 2040 Long Range Transportation Plan is to identify opportunities for low-cost/high-benefit improvements to address congestion management. This approach ensures that Transportation System Management (TSM) opportunities are assessed prior to considering system expansion projects or needs. An analysis was completed to identify these locations and propose potential low-cost/high-benefit improvements using the following evaluation steps:

- Identify issue locations
- Screen locations for most pressing issues
- Develop lower-cost/high-benefit solutions
- Prioritize solutions with highest return on investment

The analysis and methodology used to identify potential low-cost/high-benefit solutions is documented in Appendix C. Based on this approach, a total of eight projects were identified as having a high return in investment (see Figure 8-10 – Return Period). In essence, these projects will have a "high-level of effectiveness" in reducing traffic delays and providing safety benefits over a relatively short period of time.

However, projects from this analysis are not considered expansion projects, but rather system preservation or safety projects within APO system planning. Therefore, funding for these improvements is more flexible as project development approaches. In that respect, these projects will not carry forward as part of the Plan's fiscally constrained project list and can be implemented overtime using local funds. The results of the analysis are summarized in Figure 8-10.

Volume to Capacity Analysis

The regional model was used to evaluate travel characteristics of the 2010 base year. Congestion for the base year and Plan year (2040) has been defined as roads or bridges with a volume to capacity ratio greater than 1.30 (LOS E or LOS F). Figure 8-12 depicts the volume to capacity ratios for the Plan year (year 2040 no build). This analysis helped inform a list of potential expansion needs to mitigate existing and anticipated congestion. However, this list of needs exceeds revenue forecasts described in Chapter 15.

Figure 8-11: Project Effectiveness and Return Period

Location	Proposed Solution	Problem Magnitude	Effectiveness	Concept Estimate *	Return Period
Stearns CSAH 75 & CSAH 133	Realign Trail Crossing, Provide second EBL Turn Lane, Provide second NB Lane along CSAH 133 from CSAH 75 to Elm St E.	$715,000	22%	$975,000	6 Years
Benton CSAH 33 & CSAH 29	Construct single lane roundabout.	$402,000	81%	$1,400,000	4 years
TH 23 & Waite Ave	Traffic signal timing improvements at intersection of Waite Ave and TH 23, modify segment of Waite Ave between TH 23 and CSAH 75 to three -lane roadway, add NB right-turn lane at intersection of Waite Ave and CSAH 75.	$1,295,000	36%	$145,000	4 Months
TH 15 & TH 23 and TH 15 & CSAH 75	Provide NB auxiliary lane along TH 15 between south and north intersections, revise EB departure lane striping to receive NB right-turns on TH 23, modify right-turn islands to use striping with "yield style", reduce radius of SB right-turn lane at south intersection.	$5,421,000	30%	$935,000	7 Months
TH 15 & 3rd Street	Provide SB queue detection system (advanced warning flasher). Consider a study to determine benefit of dynamic lane assignment, or dual EB left-turn lane. Lengthen SB right-turn lane. Provide optically programmable signal heads.	$1,410,000	19%	$178,500	8 Months
TH 15 & 8th Street	Provide NB queue detection system (advanced warning flasher). Provide optically programmable signal heads.	$1,951,000	13%	$43,500	2 Months
TH 15 & 18th Street	Provide queue detection system (advanced warning flasher) on TH 15 in both NB and SB directions. Provide interconnect system across river (between intersection of TH 15 and 18th St and intersection of TH 15 and CR 1).	$560,000	5%	$83,000	3 Years
9th Avenue & 10th Street	Traffic signal timing improvements.	$1,295,000	11%	$2,500	1 Month

** Planning level engineering estimates*

Throughout the planning process, the TAC qualitatively evaluated and refined the preliminary project list to fit within the forecasted revenue targets for expansion projects. Additional volume to capacity analysis was conducted using the APO travel demand model including select expansion projects to assess system-wide congestion relief, fiscal constraint, and local priority. Only a small, select group of projects was analyzed based on logical groupings of projects with high levels of support. The three initial build scenarios were as follows:

Build Scenario 1

- Leander Avenue from 23rd Street to Brianna Drive – Expansion to 3 Lanes
- CR 134 from West Oakes Drive to Pine Cone Road – Expansion to 4 Lanes
- 33rd Street from CSAH 74 to Cooper Avenue – Expansion to 4 Lanes
- CSAH 1 (Mayhew Road) from CSAH 3 (Golden Spike Road) to CR 45 (15th Street NE) – Expansion to 4 Lanes
- 9th Avenue from 15th Street to 9th Street – Expansion to 4 Lanes

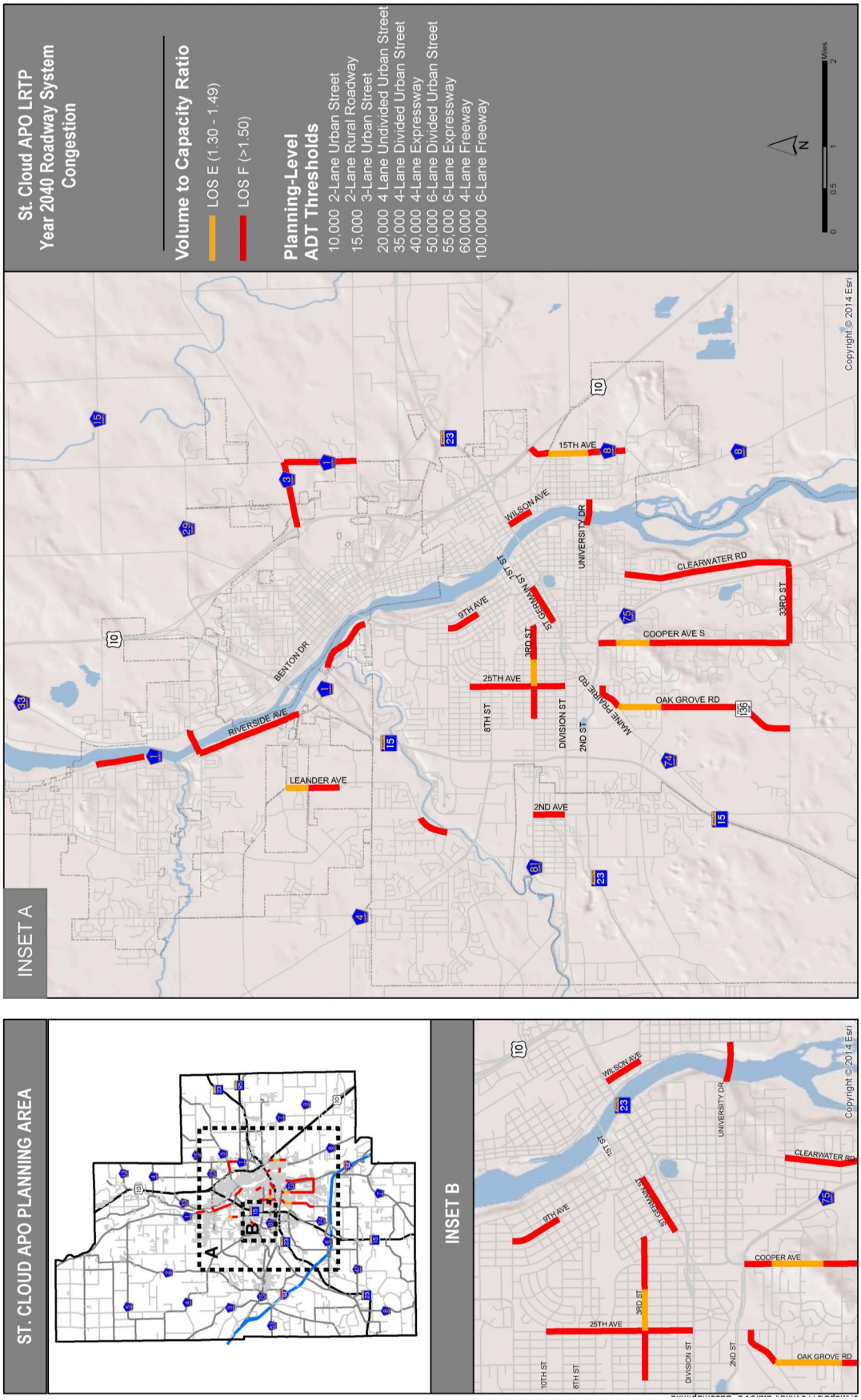
Build Scenario 2

- Leander Avenue from 23rd Street to Brianna Drive – Expansion to 3 Lanes
- CR 134 from West Oakes Drive to Pine Cone Road – Expansion to 4 Lanes
- 33rd Street from CSAH 74 to Cooper Avenue – Expansion to 4 Lanes
- CSAH 133 from 19the Avenue to Thiesen Road – New Alignment
- CSAH 29 from CSAH 8 to CSAH 1 – New Alignment

Build Scenario 3

- Leander Avenue from 23rd Street to Brianna Drive – Expansion to 3 Lanes
- CR 134 from West Oakes Drive to Pine Cone Road – Expansion to 4 Lanes
- 33rd Street from CSAH 74 to Cooper Avenue – Expansion to 4 Lanes
- CSAH 1 from 9th Avenue to CR 120 – Expansion to 4 Lanes
- 9th Avenue from 15th Street to 9th Street – Expansion to 4 Lanes

A summary of the volumes and capacities for the existing and year 2040 build scenarios are shown in Figures 8-11 to 8-14.



Map 8-5: Plan Year 2040 No Build Volume to Capacity Ratios

Figure 8-12: Build Scenario 1 Summary

Project ID Number	Location	Existing				Year 2040 - Build Scenario 1				Construction Cost in Million$ (2014)*
		Cross-Section	ADT	Capacity	V/C Ratio	Cross-Section	ADT	Capacity	V/C Ratio	
2	Leander Ave	2-Lane Urban Street	1,150	10,000	0.12	3-Lane Urban Street	17,100	15,000	1.14	$2.50
4	CSAH 1 (Mayhew Lake Rd)	2-Lane Urban Street	5,700	10,000	0.57	4-Lane Divided Urban Street	25,400	35,000	0.73	$3.50
5	CR 134	3-Lane Urban Street	4,300	15,000	0.29	4-Lane Divided Urban Street	29,850	35,000	0.85	$2.40
6	9th Ave	2-Lane Urban Street	14,100	10,000	1.41	4-Lane Divided Urban Street	19,300	35,000	0.55	$2.40
7	33rd St	2-Lane Urban Street	5,500	15,000	0.37	4-Lane Divided Urban Street	11,650	35,000	0.33	$4.80

** Construction Cost values do not include ROW*

Figure 8-13: Build Scenario 2 Summary

Project ID Number	Location	Existing				Year 2040 - Build Scenario 2				Construction Cost in Million$ (2014)*
		Cross-Section	ADT	Capacity	V/C Ratio	Cross-Section	ADT	Capacity	V/C Ratio	
2	Leander Ave	2-Lane Urban Street	1,150	10,000	0.12	3-Lane Urban Street	17,100	15,000	1.14	$2.50
5	CR 134	3-Lane Urban Street	4,300	15,000	0.29	4-Lane Divided Urban Street	29,850	35,000	0.85	$2.40
7	33rd St	2-Lane Urban Street	5,500	15,000	0.37	4-Lane Divided Urban Street	11,650	35,000	0.33	$4.80
8	CSAH 133 New Alignment	-	-	-	-	2-Lane Urban Street	10,700	10,000	1.07	$2.40
9	CSAH 29 New Alignment	-	-	-	-	2-Lane Rural Road	13,600	15,000	0.91	$4.50

** Construction Cost values do not include ROW*

Figure 8-14: Build Scenario 3 Summary

Project ID Number	Location	Existing				Year 2040 - Build Scenario 3				Construction Cost in Million$ (2014) *
		Cross-Section	ADT	Capacity	V/C Ratio	Cross-Section	ADT	Capacity	V/C Ratio	
2	Leander Ave	2-Lane Urban Street	1,150	10,000	0.12	3-Lane Urban Street	17,100	15,000	1.14	$2.50
3	CSAH 1	2-Lane Urban Street	12,500	10,000	1.25	4-Lane Divided Urban Street	28,850	35,000	0.82	$7.20
5	CR 134	3-Lane Urban Street	4,300	15,000	0.29	4-Lane Divided Urban Street	29,850	35,000	0.85	$2.40
6	9th Ave	2-Lane Urban Street	14,100	10,000	1.41	4-Lane Divided Urban Street	19,700	35,000	0.56	$2.40
7	33rd St	2-Lane Urban Street	5,500	15,000	0.37	4-Lane Divided Urban Street	11,650	35,000	0.33	$4.80

** Construction Cost values do not include ROW*

8.5 Recommended Improvements

The TAC contributed significantly to the recommended improvements list. Their input was driven by local knowledge and the Plan's technical components. More importantly, the TAC recognized the importance in programming projects based on reasonable funding sources, while maintaining a "State of Good Repair" on the National Highway System (NHS) and Principal Arterials. In that respect, the programming of projects was based on the APO's financial forecasts and investment targets.

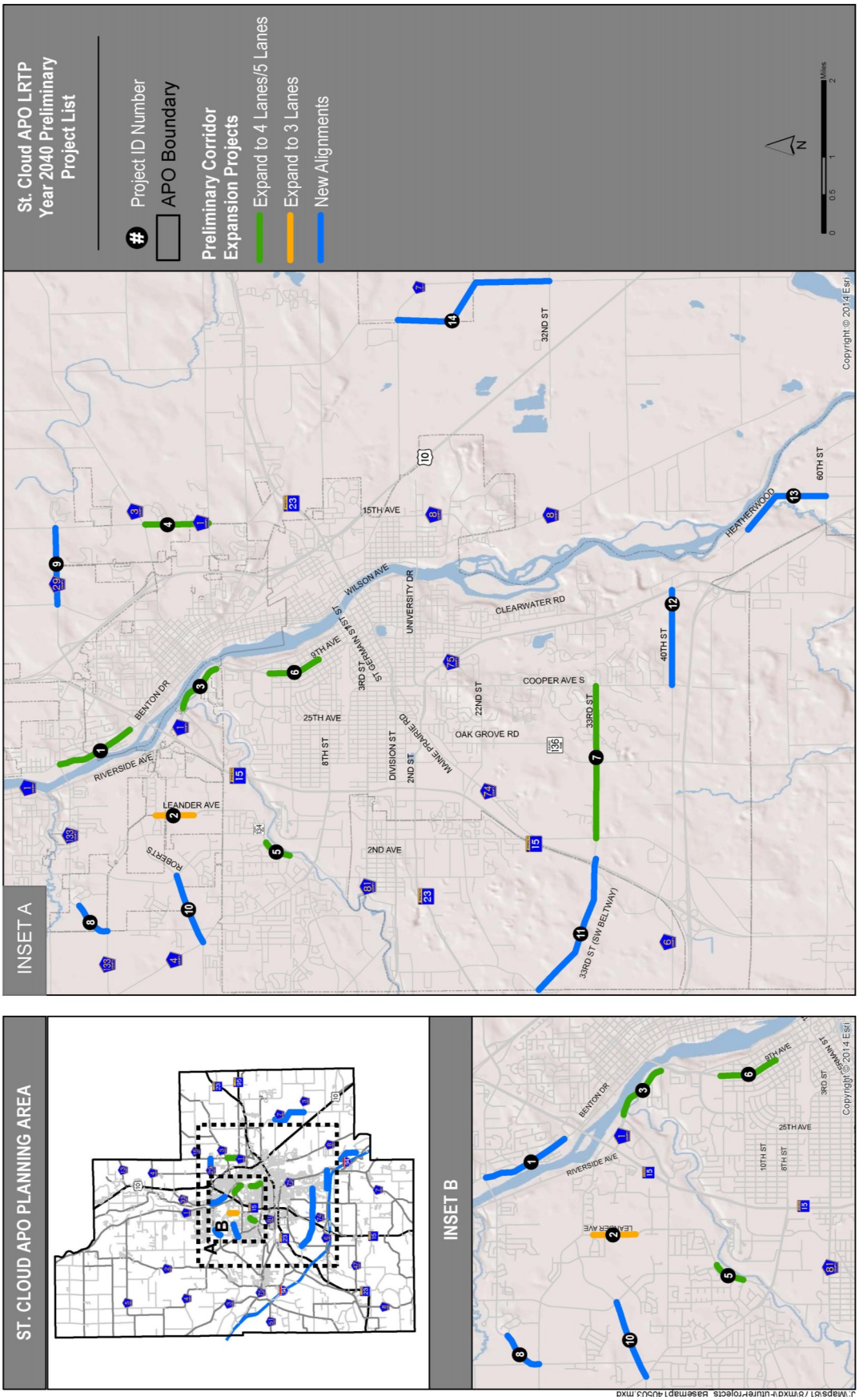
The APO estimates approximately $87.7 million for its total federal funding program, which includes $12.1 million in TAP funds and $9.6 million in HSIP funds (neither is eligible for dedicated expansion or preservation projects). Further, the APO has set an expansion project allocation of 35% of eligible funds, which equates to approximately $28.4 million, and a preservation project allocation of 65% of eligible funds, which equates to approximately $37.6 million. Expansion projects are defined as those that increase capacity of the roadway (e.g., two lanes to four lanes). Preservation projects are defined as projects that maintain the system in a "State of Good Repair" or projects addressing safety and congestion needs without significant corridor expansion. The financial forecasts and investment targets are further explained in Chapter 15.

It is important to note that the APO and its participating municipalities have identified two-lane corridor conversion projects to three-lane corridors as preservation projects.

Fiscally Constrained Projects

Following the technical analysis, and consideration of the build scenarios presented earlier, the TAC developed a refined preliminary project list for consideration given the fiscal constraints and potential system benefits. This included new alignments that were considered as part of past planning activities (e.g., CSAH 133, CSAH 29, and 33rd Street - SW Beltway). The refined preliminary project list is comprehensive in nature (see Map 8-6). More importantly, the preliminary project list was presented to the public (May 2014 public open house) to determine project priorities and support. Unfortunately, the expansion needs from this list far exceed the revenue forecasts. Thus, a number of projects were shifted to illustrative and unmet needs lists, respectively. Based on TAC quantitative and qualitative assessment of various expansion options, six projects were selected within the fiscal constraints of this plan and approved by the APO Policy Board (see Figure 8-15 and Map 8-7).

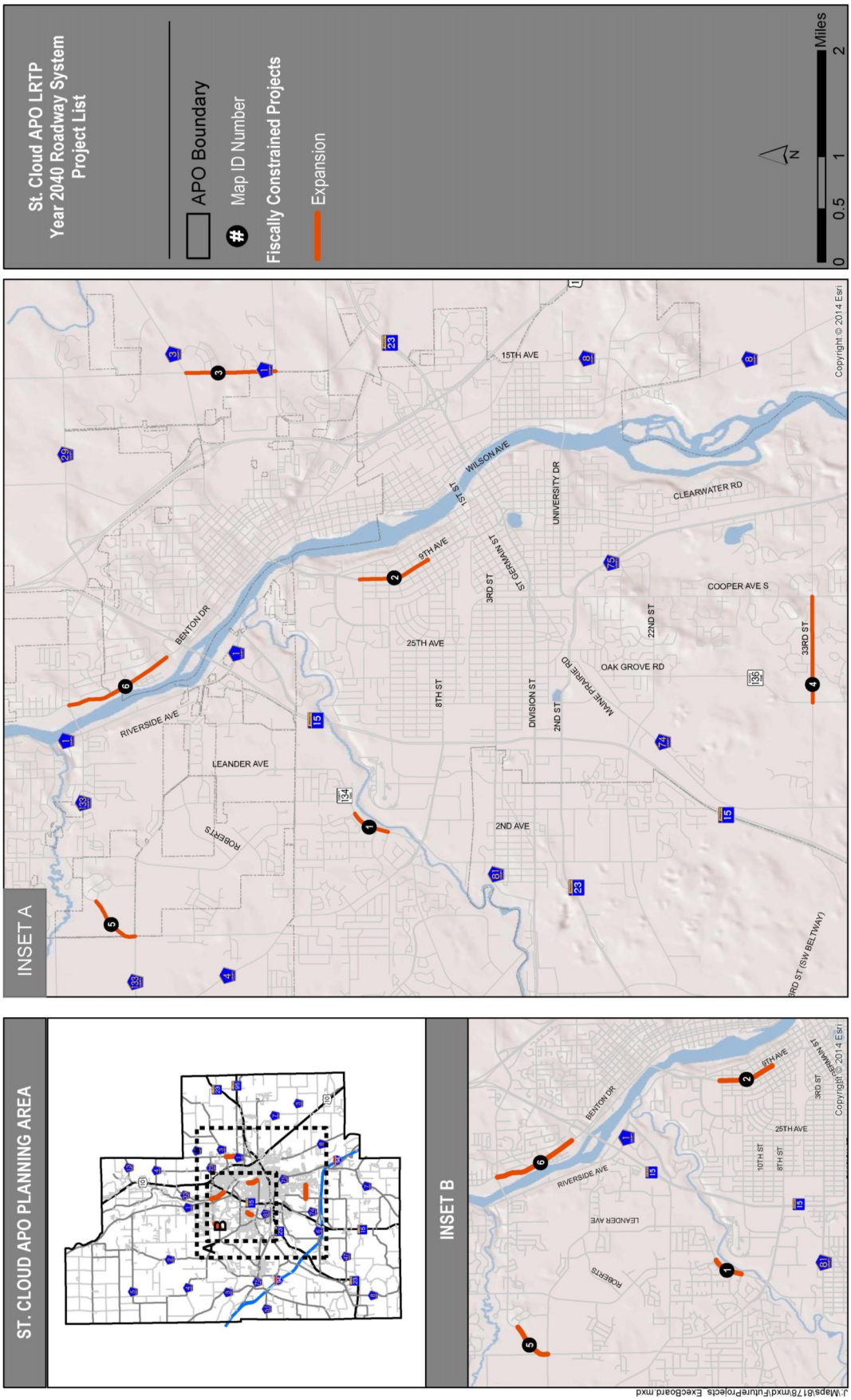
The fiscally constrained projects (year 2040 Build Scenario) were further evaluated using the CUBE model. The Year 2040 Build Scenario network assigned year 2040 trip generation to a system of existing roadways, plus committed expansion projects through Fiscal Year (FY) 2017. Figure 8-7 compares the plan year 2040 No Build volumes to the 2040 Build Scenario.



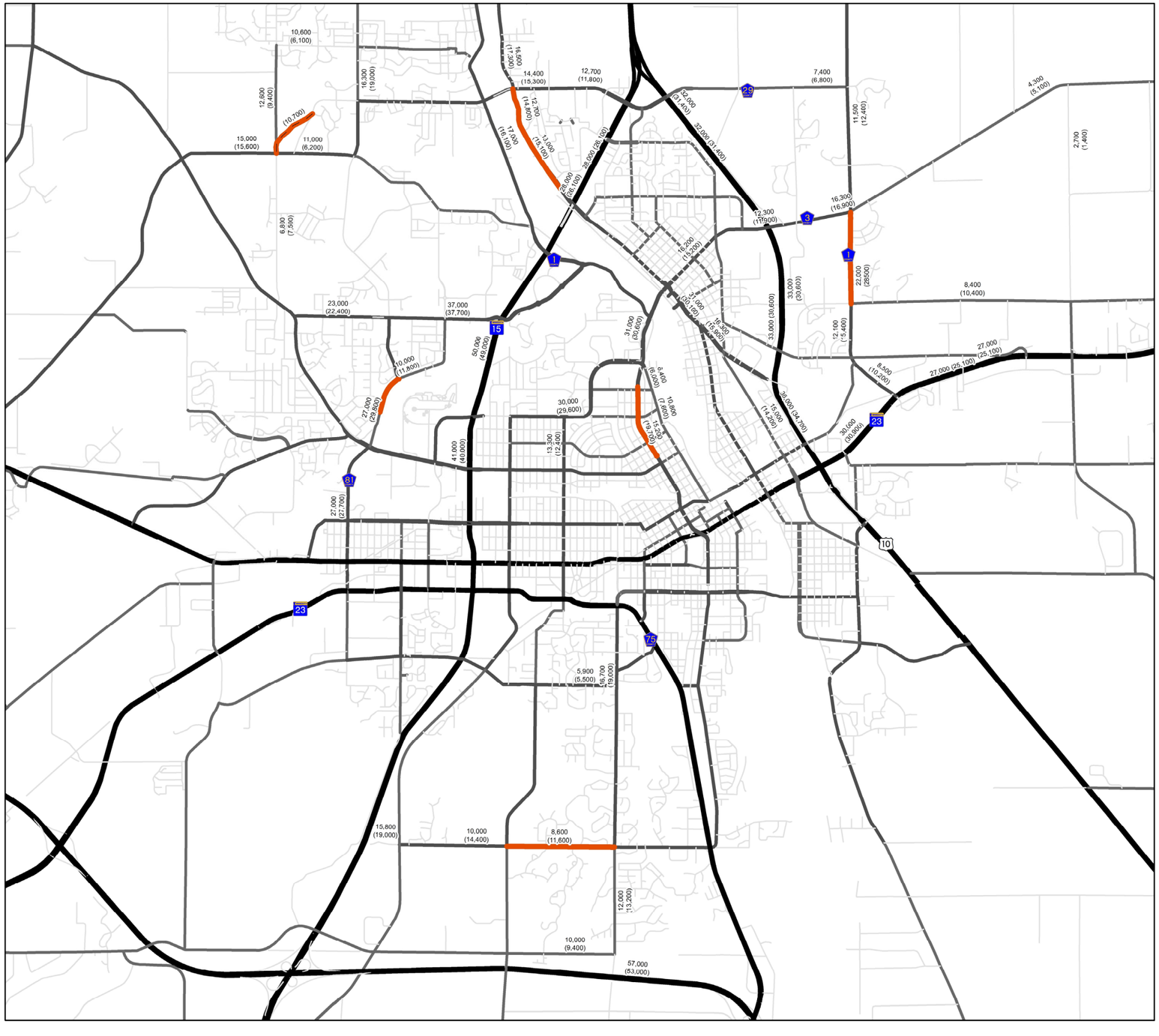
Map 8-6: Preliminary Project List

Figure 8-15: Approved Project List for Expansion Needs

Map Id (See Map 8-6)	Location	Type	From	To	Jurisdiction	Improvement	Planning Level Construction Cost Estimates in Millions (does not include right-of-way)					
							2014	2020	2025	2030	2035	Avg. 2020 – 2035 *
1	CR 134	Corridor	W Oakes Dr	Pine Cone Rd	Stearns County	Expand to 4-Lanes	$2.14	$3.00	#3.7	$4.50	$5.50	$4.17
2	9th Ave	Corridor	15th St	9th St	City of St. Cloud	Expand to 4-Lanes	$2.14	$3.00	#3.7	$4.50	$5.50	$4.17
3	CSAH 1 (Mayhew Lake Rd)	Corridor	CSAH 3 (Golden Spike Rd)	CR 45 (15th St NE)	Benton County	Expand to 4-Lanes	$3.50	$4.40	$5.40	$6.60	$8.00	$6.09
4	33rd St (Phase 1)	Corridor	CR 136	Cooper Rd	City of St. Cloud	Expand to 4-Lanes	$2.14	$3.00	#3.7	$4.50	$5.50	$4.17
5	CSAH 133-New Alignment	New Alignment	19th Ave	Theisen Rd	Stearns County	Expand to 4-Lanes	$2.14	$3.00	#3.7	$4.50	$5.50	$4.17
6	Benton Dr	Corridor	CSAH 29/ 1st St NE	18th St NW	Benton County	Expand to 4-Lanes	$2.50	$3.20	$3.80	$4.70	$5.70	$4.35



Map 8-7: Approved Fiscally Constrained Project List (Expansion Projects Only)



Map 8-8: 2040 Build Scenario ADT Volumes (compared against 2040 No Build Volumes)

Traffic Volumes

Year 2040 No Build ADT	X,XXX
Year 2040 Build ADT	(X,XXX)
Connectivity Improvement	- - - - -
Programmed Project	

0 1 2 Miles

N

Illustrative Projects & Unmet Needs

Due to the funding constraints for programming road and bridge projects in the Plan, development of an "Illustrative Project" list and "Unmet Congestion Needs" list was necessary to ensure that relevant projects to the St. Cloud APO Metropolitan Area is documented for future consideration.

Illustrative Projects

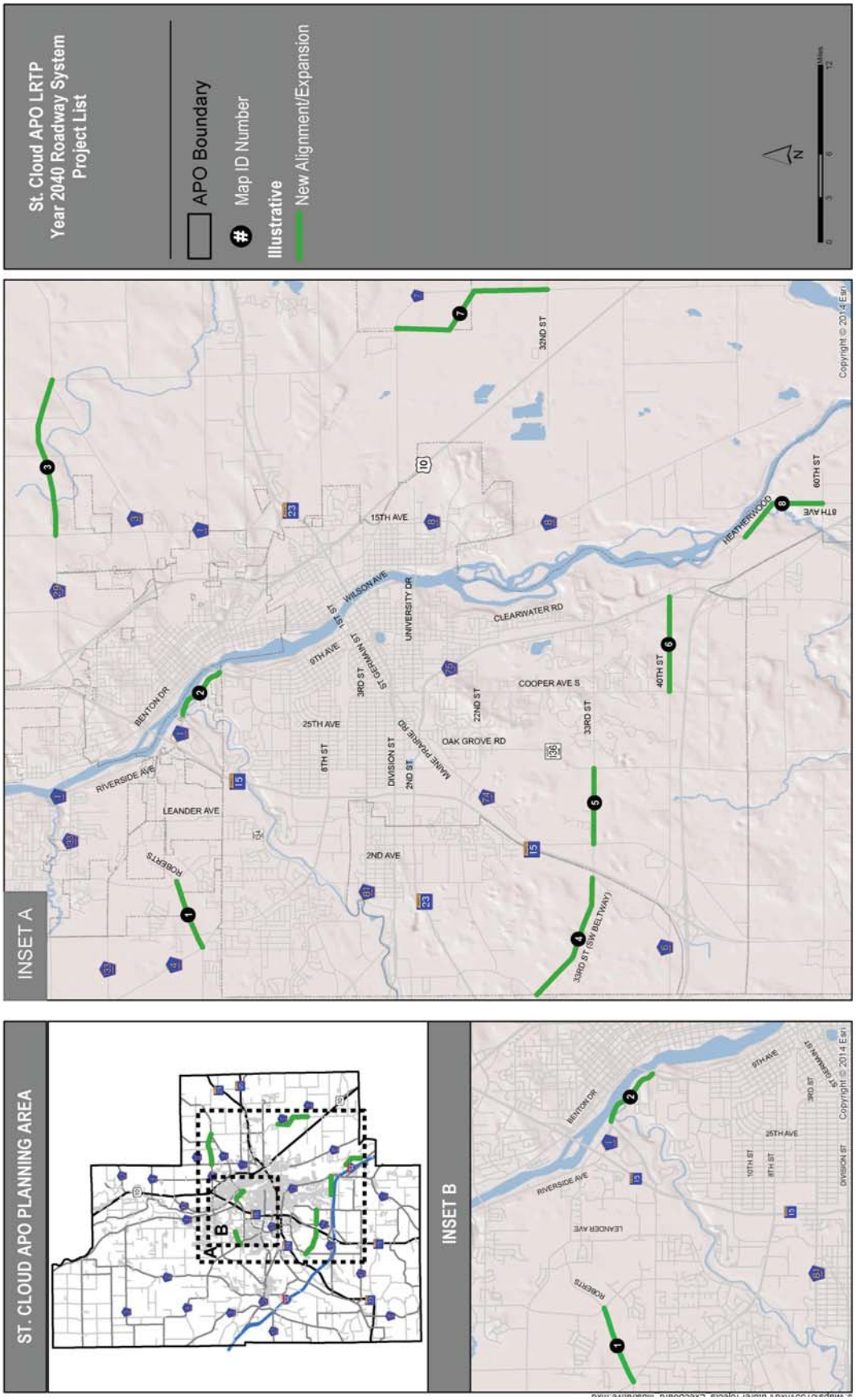
The Illustrative Project list (see Figure 8-15 and Map 8-9) includes the remaining projects from the preliminary project list (shown in Map 8-6) that were not recommended within the Fiscally Constrained Project List. The TAC defined the illustrative projects as those projects that are currently without "reasonably expected" funding from traditional sources by the respective agencies. However, a project on the illustrative list can be amended into the fiscally constrained portion of plan if new funding becomes available. Therefore, it is important to note the fiscally constrained program of projects may not represent the area's preferred discretionary project schedule. Desired and necessary projects that could not be included within the Plan's fiscal constraint parameters are defined as "illustrative projects" and should be considered "opportunity driven" as they relate to future funding opportunities.

Unmet Needs

The Unmet Congestion Needs (see Figure 8-16 and Map 8-10) capture the remaining projects needed to reduce anticipated congestion by year 2040, which are corridors expected to operate with a volume to capacity ratio greater than 1.30 (LOS E or LOS F). Many of the congestion issues originally identified on the volume to capacity congestion map were corridors with existing two-lane roadways that require a center-turn lane (three-lane roadway) to mitigate congestion issues. These types of projects, based on the financial plan, are considered to be eligible for preservation funds. Therefore, they were not carried forward as part of the documented Fiscally Constrained Project List.

Figure 8-16: Illustrative Project List

Map Id (See Map 8-9)	Location	Type	From	To	Jurisdiction	Improvement	Avg. Construction Cost in Million$ (2020 – 2035)	Estimated ROW Cost in Million$
1	Roberts Road-New Alignment	New Alignment	Pinecone Rd	CSAH 4 at 322nd St	City of Sartell	Construct 3-Lanes	$6.26	$4.32
2	CSAH 1	Corridor	9th Ave	CR 120	Stearns County	Expand to 4-Lanes	$12.52	$1.20
3	CSAH 29	New Alignment	CSAH 8	CSAH 1	Benton County	Construct 2-Lanes	$7.83	$0.00
4	33rd St (SW Beltway)	New Alignment	Granite View Rd	CR 137	City of Waite Park	Construct 4-Lanes	$14.78	$5.40
5	33rd St (Phase 2)	Corridor	CSAH 74	CR 136	City of St. Cloud	Expand to 4-Lanes	$4.17	$3.30
6	40th St S.	New Alignment	Cooper Ave	CSAH 75	City of St. Cloud	Construct 2-Lanes	$9.39	$1.92
7	CSAH 7-New Alignment	New Alignment	Del Tone Rd	CSAH 3	Sherburne County	Construct 2-Lanes	$9.04	$0.00
8	Heatherwood Rd	New Alignment	Heatherwood Rd	8th Ave S	City of St. Cloud	Construct 2-Lanes	$5.04	$0.00
	CR 134	ROW	W Oakes Dr	Pine Cone Rd	Stearns County	Expand to 4-Lanes		$1.00
	33rd St (Phase 1)	ROW	CR 136	Cooper Road	City of St. Cloud	Expand to 4-Lanes		$3.30
	CSAH 133-New Alignment	ROW	19th Avenue	Theisen Road	Stearns County	Expand to 4-Lanes		$0.30



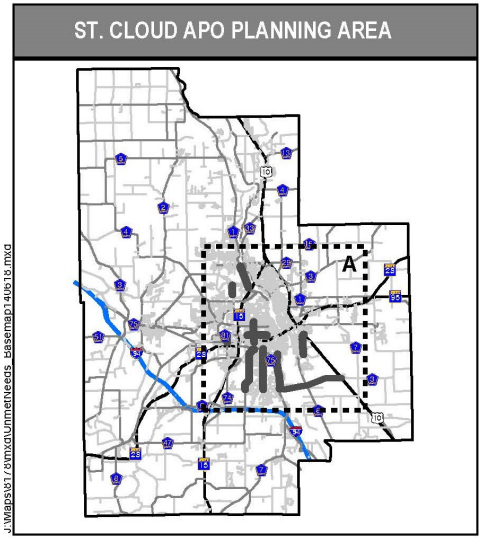
Map 8-9: Illustrative Project List

Figure 8-17: Unmet Needs

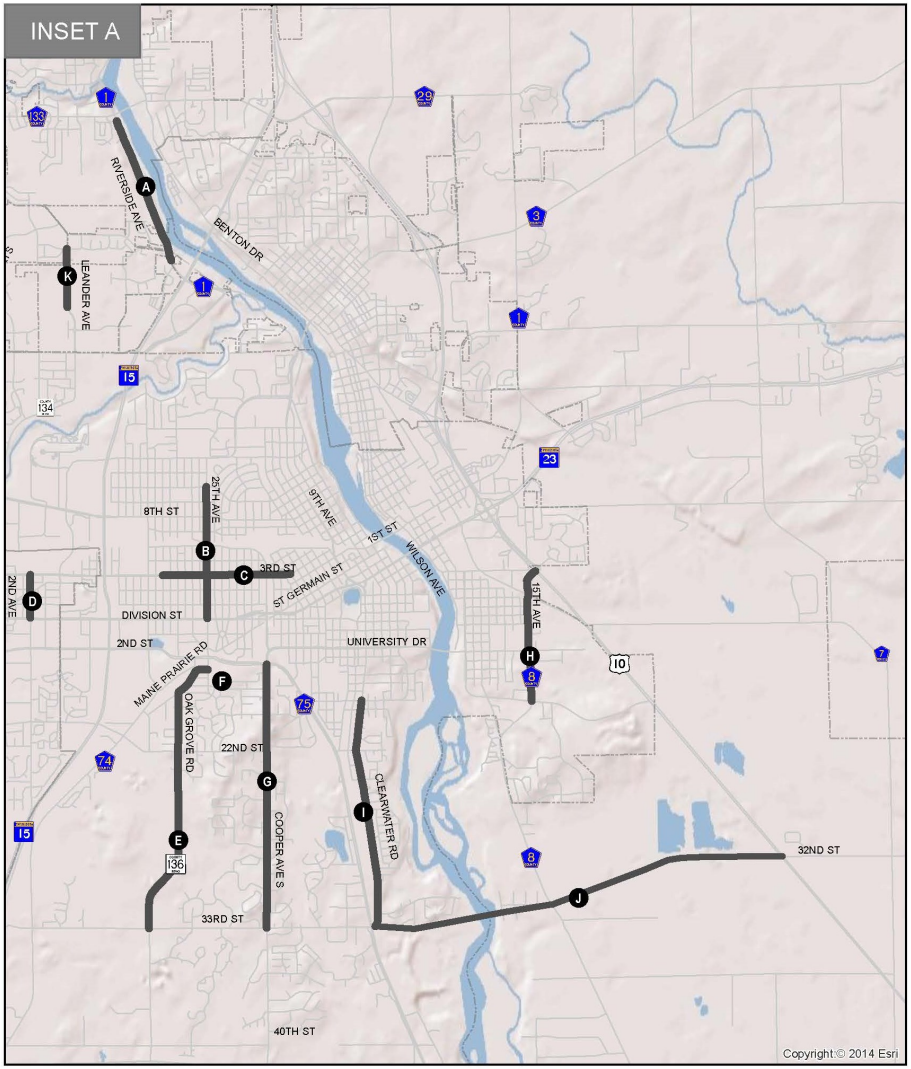
Map ID (See Map 8-9)	Location	From	To
A	CSAH 1	Heritage Dr	CSAH 78
B	25th Ave	Centennial Dr	Highway 23
C	3rd St	31st Ave	16th Ave
D	2nd Ave N.	CSAH 75 (Division St)	3rd St
E	CR 136 (Oak Grove Rd	500' South of Oak Hill Elementary	22nd St
F	Oak Grove/Main Prairie Rd	22nd St	25th Ave
G	Cooper Ave	33rd St	CSAH 75
H	CSAH 8 (15th Ave)	Minnesota Blvd	Highway 10
I	Clearwater Rd	CSAH 75 (Roosevelt Rd)	16th St
J	33rd St River Crossing	CSAH 75 (Roosevelt Rd)	Highway 10
K	Leander Ave	23rd St	Brianna Dr

The Unmet Needs corridors do not make up a specific project list, but rather a map developed from the APO travel demand model outputs that identifies regional congestion needs by year 2040 (shown in Map 8-6). The year 2014 cost estimate for unmet needs is approximately $86 million, which equates to $246 million in year 2040 when considering inflation.

Map 8-10: Unmet Needs



Map ID	Location	From	To
A	CSAH 1	Heritage Dr	CSAH 78
B	25th Ave	Centennial Dr	TH 23
C	3rd St	31st Ave	16th Ave
D	2nd Ave N	CSAH 75 (Division St)	3rd St
E	CR 136 (Oak Grove Rd)	500' South of Oak Hill Elementary	22nd St
F	Oak Grove/Maine Prairie Rd	22nd St	25th Ave
G	Cooper Ave	33rd St	CSAH 75
H	CSAH 8 (15th Ave)	Minnesota Blvd	US 10
I	Clearwater Rd	CSAH 75 (Roosevelt Rd)	16th St
J	33rd Sreet River Crossing	CSAH 75 (Roosevelt Rd)	US 10
K	Leander Ave	23rd St	Brianna Dr



St. Cloud APO LRTP
Year 2040 Roadway System

APO Boundary

Map ID

Unmet Needs

Unmet Congestion Needs

Total Estimated Project Cost
2014 = $86 Million
2040 = $246 Million

N

0 0.5 1 2 Miles

8.6 Transportation Improvement Program (TIP)

The Transportation Improvement Program (TIP) is a multi-year program of transportation improvements for the St. Cloud metropolitan area. The TIP must be updated and approved at least every four years by the Metropolitan Planning Organization (MPO) in cooperation with the Minnesota Department of Transportation (MnDOT) and St. Cloud Metro Bus. The St. Cloud Area Planning Organization (APO), the MPO for the area, updates the TIP annually. The MnDOT Commissioner approves the TIP and incorporates the St. Cloud metropolitan area projects into the State Transportation Improvement Program (STIP).

The most current TIP, covering 2015 to 2019, is included in the APO Long Range Plan to represent and document the most immediate time covered by the Plan and to display that it too is consistent with both the 2035 and 2040 Plans.

TIP Creation Process

Federal transportation legislation requires states, MPOs and transit providers to have a minimum of four (4) years represented in their TIP/STIP documents. This four (4) year process is represented in the TIP document (FY 2015 to FY 2019) for local federal projects, MnDOT District 3 projects, St. Cloud Metro Bus projects and regionally significant projects in the APO planning area. A project is generally considered regionally significant if: it adds one or more travel lanes for over one mile, or it involves the addition of an interchange, or it involves the reconfiguration of an interchange such that a movement is added or eliminated. Local projects that are fully funded by a township, city, or county are not included in the APO TIP.

The APO solicits project applications every other year for local federal funding. Programming projects every other year allows for the consideration of programming larger projects. Project applications were submitted, prioritized, and approved in 2014 for FY 2018 and FY 2019 funding. The four or five year programming period is consistent with the capital improvement programs of local implementing agencies and provides an adequate time-frame for programming projects from the Plan.

This every other year programming approach has allowed the APO to program approximately $3.12 million instead of $1.56 million each project solicitation, allowing for the programming of more projects. With MAP-21 requiring a minimum 4-year TIP, the APO will continue this every other year programming approach by adding a voluntary 5th TIP year.

Available Federal Funds

Since the passage of MAP-21 at the federal level and MnDOT's latest 20-Year Minnesota State Highway Investment Plan (MnSHIP), the federal funds available to the Central Minnesota Area Transportation Partnership (ATP) have been divided into a set of performance oriented programs. The two largest programs are the Statewide Performance Program (SPP) and the District Risk Management Program (DRMP) which entirely fund state highways, including the National Highway System (NHS) and Interstates and is completely controlled by MnDOT for the purpose of maintaining pavement performance. Additionally, the Highway Safety Improvement Program (HSIP), focused on improving highway safety, is split between MnDOT's and the ATP's control. The Transportation Alternatives

Program (TAP), focused on funding bicycle and pedestrian facilities and other non-highway and non-transit programs, is in the total control of the ATP. But, unlike in previous years, it now stands as a separate program. The Central Minnesota ATP receives around $1.6 million annually for TAP projects.

The funding program entirely controlled by the ATP, and under the supervision of the APO is the Area Transportation Partnership (ATP) Managed Program. From this program the St. Cloud APO receives approximately 20.53% of the federal funds for the Central Minnesota ATP, or $1.56 million of the $7.6 million local federal share in federal fiscal year 2018. The ATP managed Program is composed primarily of Federal Surface Transportation Program (STP) funds.

For the purpose of the Plan and the development of the financial forecast, see Chapter 15, only federal funds through the ATP Managed Program (STP) were reviewed to ensure consistency with 2035 Long Range Plan. The majority of all local highway construction projects in the APO are funded through the ATP Managed Program. The APO has 11 projects programed in the current FY 2015 to 2019 TIP totaling nearly $19 million in total project cost, see figures 8-18 and 8-19 for the complete list of projects. Nine of the projects are funded through the STP, or ATP Managed Program, with over $7.9 in federal funds with approximately an additional $7.74 million in matching local resources. The final two remaining local projects in the TIP are categorized as Demo funded or are federal funds that were distributed directly from the federal government as part of the previous National Transportation Bill, SAFETEA-LU. Both projects are for right of way acquisition and equal over $3.9 million in total, with only $1.12 million in federal. Once again, the funds for the two demo projects are neither controlled or oversaw by MnDOT, the ATP or the APO. They are added to this discussion because they can help fill a gap between local funds and typical federal or state funds.

Financial Constraint

As part of the TIP, not only does the program have to be fiscally balanced to match anticipated incoming federal resources, on a yearly basis, but the local agencies must also ensure that they have enough financial resources to support the local match. The reason for preparing the financial capability is to determine if a jurisdiction can provide the local match requirement without compromising maintenance and operation of the existing system.

This version of fiscal constraint is required for all projects (which can be seen in the APO FY 2015 – 2019 TIP) but this Plan only attempt to identify expansion projects due to their large costs and limited financial resources. The FY 2015 to 2019 TIP only contains three projects (5 project lines in the TIP due to financial management techniques) that can be categorized as expansion projects. They are (Figure 8-19):

- Sartell MSAS 117 (50th Avenue) in FY 2015– Heritage Drive north to 4th Avenue connection – New road construction
- Benton County CSAH 3 in FY 2016 - CSAH 3 from Benton Drive to US 10 - Roadway Expansion
- St. Cloud MSAS 151 in FY 2019 – 33rd Street South Phase 2: Southway Drive to Cooper Avenue - Expand to 4 lane divided roadway

Figure 8-18:

St. Cloud APO FY 2015-2019 TIP Project Programming: STP Funds - Maintenance and Operations Projects

Route System	Project #	Fiscal Year	Who	Agency	Description	City Location	County Name	Program Code	Proposed Funds	Total FHWA	Total AC	Total AC Payback	FTA	Total TH	Bond	Other	Project Total
CSAH 120	073-720-002AC	2015	L	STEARNS COUNTY	**AC** SAFETY IMPROVEMENTS FROM 500 FEET WEST OF 50TH AVENUE TO CONNECTICUT AVENUE IN SARTELL (AC PAYBACK 1 OF 1)	SARTELL	STEARNS	SC	STP 5K-200K	$0	$0	$398,561	$0	$0	$0	$0	$398,561
LOCAL 999	220-117-002AC2	2015	L	SARTELL	**AC** GRADING, AGG BASE, BITUMINOUS SURFACING, CONCRETE CURB AND GUTTER, ROUNDABOUTS, STORM SEWER AND WATER MAIN FOR 50TH AVE FROM JCT CR 120 AND 50TH AVE TO 0.429 MI N OF 50TH AVE (AC PAYBACK, 2 OF 2)	SARTELL	STEARNS	MC	STP 5K-200K	$0	$0	$192,000	$0	$0	$0	$0	$192,000
CSAH 1	005-601-010	2017	L	BENTON COUNTY	BENTON COUNTY CSAH 1, FROM MN 23 TO CSAH 3 (GOLDEN SPIKE ROAD) IN BENTON COUNTY, ROADWAY RESURFACING		BENTON	RS	STP<5K	$510,400	$0	$0	$0	$0	$0	$127,600	$638,000
CSAH 2	073-602-045AC	2017	L	STEARNS COUNTY	**AC** STEARNS CSAH 4 TO CSAH 75, ROADWAY RESURFACING (AC PAYBACK 1 OF 1)		STEARNS	RS	STP<5K	$0	$0	$1,688,800	$0	$0	$0	$0	$1,688,800
CSAH 75	073-675-037	2018	L	STEARNS COUNTY	STEARNS COUNTY CSAH 75, FROM OLD COLLEGEVILLE ROAD TO CSAH 81 IN STEARNS COUNTY, RESURFACING		STEARNS	RS	STP 5K-200K	$1,260,000	$0	$0	$0	$0	$0	$315,000	$1,575,000
CSAH 33	005-629-013	2018	L	BENTON COUNTY	BENTON COUNTY CSAH 33, INTERSECTION OPERATIONAL IMPROVEMENTS AT CSAH 29 (1ST ST.)/CSAH 33 INTERSECTION IN SARTELL	SARTELL	BENTON	RC	STP<5K	$400,000	$0	$0	$0	$0	$0	$100,000	$500,000

Figure 8-19:

St. Cloud APO FY 2015-2019 TIP Project Programming: STP & Demo Funds - Expansion Projects

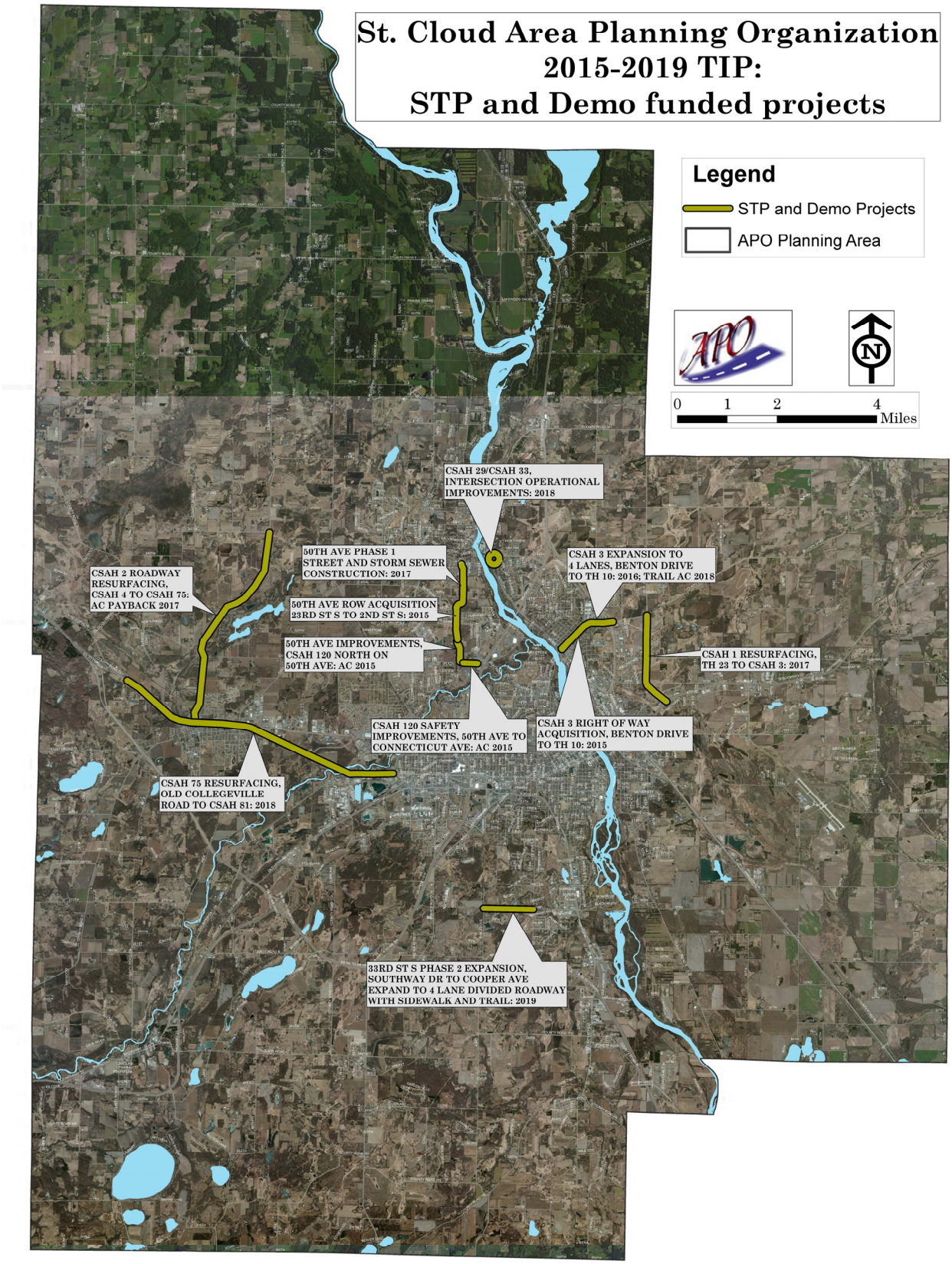
Route System	Project #	Fiscal Year	Who	Agency	Description	City Location	County Name	Program Code	Proposed Funds	Total FHWA	Total AC	Total AC Payback	FTA	Total TH	Bond	Other	Project Total
CSAH 3	005-603-028	2015	L	BENTON COUNTY	**MN162** BENTON COUNTY CSAH 3: BENTON DRIVE TO TH 10, RIGHT OF WAY ACQUISITION (SAFETEA-LU)	SAUK RAPIDS	BENTON	RW	DEMO	$658,242	$0	$0	$0	$0	$0	$2,050,000	$2,708,242
MSAS 117	220-117-003	2015	L	SARTELL	**MN162** ROW ACQUISITION FROM 23RD ST SOUTH TO HERITAGE DR AND FROM HERITAGE DR NORTH TO 4TH AVE CONNECTION AT 2ND ST SOUTH, 1.8 MILES (SAFETEA-LU)	SARTELL	STEARNS	RW	DEMO	$470,001	$0	$0	$0	$0	$0	$119,999	$590,000
CSAH 3	005-603-029	2016	L	BENTON COUNTY	**AC** CSAH 3 FROM BENTON DR TO TH 10 - ROADWAY EXPANSION, INCL BIKE/PED TRAIL (AC PROJECT - PAYBACK IN 2018)	SAUK RAPIDS	BENTON	RS	STP 5K-200K TAP 5K-200K	$1,632,400	$120,431	$0	$0	$0	$0	$4,089,939	$5,722,339
MSAS 117	220-117-004	2017	L	SARTELL	SARTELL MSAS 117 (50TH AVE), FROM HERITAGE DR TO NORTH 0.5 MILES IN SARTELL, GRADE AND SURFACE, INCL STORM SEWER AND DRAINAGE IMPROVEMENTS	SARTELL	STEARNS	RS	STP<5K	$547,600	$0	$0	$0	$0	$0	$1,007,400	$1,555,000
MSAS 151/ LOCAL 999	TBD	2019	L	ST. CLOUD	33RD STREET SOUTH PHASE 2: SOUTHWAY DR TO COOPER AVE EXPAND TO 4 LANE DIVIDED ROADWAY WITH SIDEWALK AND TRAIL	SAINT CLOUD	STEARNS	MC	STP	$1,300,000	$0	$0	$0	$0	$0	$2,100,000	$3,400,000

The pages that follow summarize the existing and forecasted financial condition of the Cities of Sartell, and Saint Cloud and Benton County to ensure they have the ability to provide adequate local funding to match federal dollars programmed in the 2015-2019 TIP.

The first (pie) chart illustrates historically how local transportation dollars have been spent on maintenance and operations and expansion projects. The second (bar) chart shows total projected local investments for maintenance and operations and expansion projects during the 2015-2019 TIP timeframe. The final (bar) chart represents local money available, less the historical average spent on maintenance and operations, to match federal funds programmed in the 2015-2019 TIP.

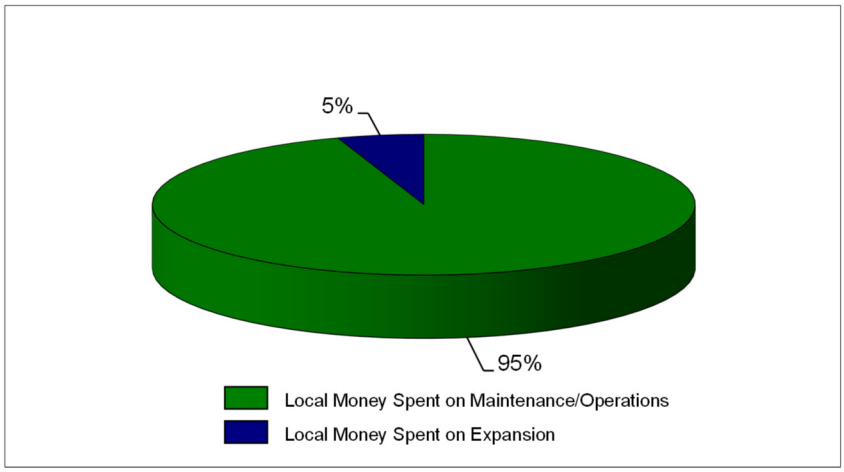
A brief financial capability summary narrative (i.e. finding) is included for each agency. Detailed financial data used for the charts in this analysis is located in the TIP along with further information on all of the agencies that compose the St. Cloud APO.

Map 8-11: STP and Demo funded projects in the FY 2015 to 2019 APO Transportation Improvement Program (TIP)



Benton County

Current Financial Condition for Benton County:
Local Investment on Maintenance/Operations & Expansion (1990-2012 Annual Average)



Current Financial Condition:

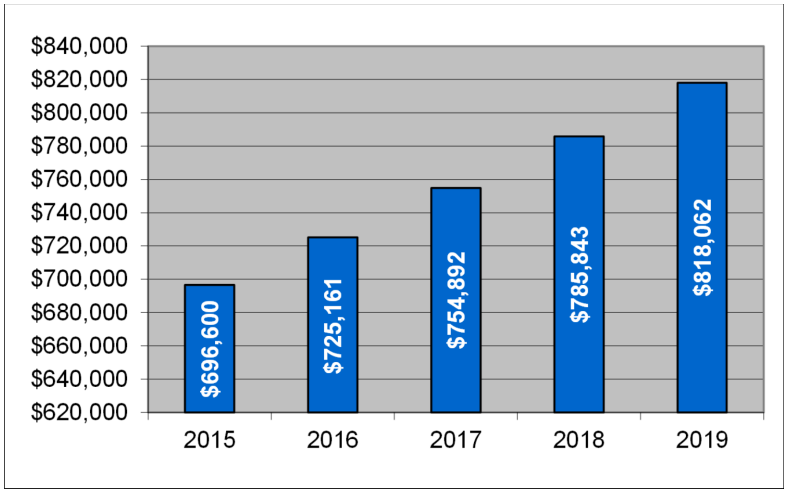
Local Investment on Maintenance/ Operations and Expansion

(1990-2012 Annual Average)

This is the historical total for **12%** of the County's expenditures. This is based on the percentage of County lane miles in the APO Planning Area.

The average per year historical maintenance/op. cost for **100%** of Benton County = **$5,223,409**

Future Financial Condition for Benton County:
2015-2019 Projected Local Investment for Maintenance/Operations & Expansion

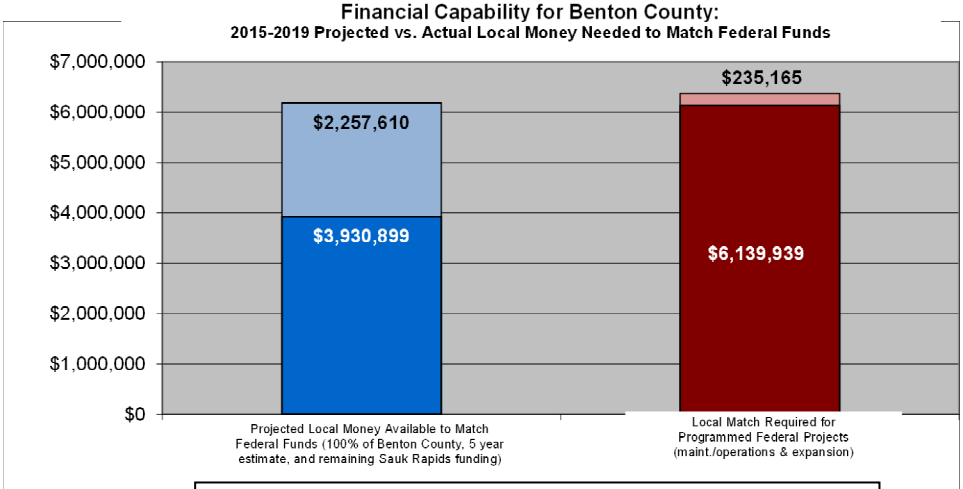


Future Financial Condition (FFC):

2015-2019 Projected Local Investment for Maintenance/ Operations & Expansion

This is the total for **12%** of the County. This is based on the percentage of County lane miles in the APO Planning Area.

Financial Capability for Benton County:
2015-2019 Projected vs. Actual Local Money Needed to Match Federal Funds



Total projected available matching funds are $6,188,509. Compared to $6,139,939 needed for expansion projects.

Financial Capability:

2015-2019 Projected Local Money vs. Actual Local Money Needed to Match Federal Funds Programmed in the 2015-2019 TIP

Financial Capability:

The city of Sauk Rapids' available local match is included. Their remaining projected available funding is $2,257,610. Total projected available matching funds are $6,188,509. Compared to $6,139,939 needed for expansion

Benton County—Financial Capability Finding

Based on historic funding and maintenance investment levels, $3,930,899 is available to match federal funds from 2015 to 2019 without compromising the maintenance and operation of the existing system (100% Benton County). This analysis is derived from an alternate process of considering the county's 100% funding level and maintenance and operation costs, rather than only the 12% APO portion usually considered as available. This is due to the circumstance of need for local match for one-time projects.

Four of the six projects requiring local match are classified as maintenance and operations projects. For example, project #005-601-010, requiring $127,600 in local match, has a program code of RS, which means Resurfacing. The Resurfacing category is intended to restore the roadway surface and/or shoulders. These projects are not expansion projects, so they contribute to the maintenance and operations of the overall system in Benton County.

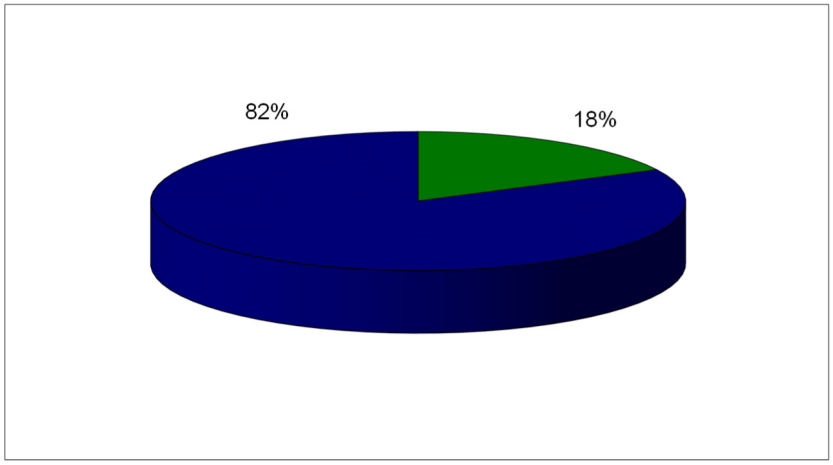
Total Projected Local Funds for **100%** of Benton County (5 years)	Total Local Maintenance/ Oper. Cost for **100%** of Benton County (5 years)	**Projected Local Money Available to Match Federal Funds**
$31,504,649	**$27,573,750**	**$3,930,899**

Benton County is required to provide the remaining local match requirement for expansion projects of $6,139,939 without compromising maintenance and operation of the existing system. This is a $2,209,040 shortfall in projected local match funding from the county. However, this match is for the expansion of CSAH 3 in the city of Sauk Rapids. According to the Agreement for Joint Construction of the project, the city is responsible for Right of Way costs within city limits. Therefore, the city of Sauk Rapids remaining projected available funding of $2,257,610 was added to the amount available to match federal funding. This equals a total of $6,188,509 projected available matching funds compared to $6,139,939 needed for expansion projects. This is technically an excess of $48,570, but this process is an illustrative estimate and this is a very small difference considering the overall project cost.

In addition, this process took a closer look at the percentage spent on maintenance and operations versus the amount spent on expansion (94% versus 6%, respectively). Benton County does not have an extensive history of expansion projects, which dilutes the percentage of funds typically used on these types of projects (see Appendix Page F-7). Due to this historical analysis, the average per year local maintenance cost amount was used to project the future local maintenance and operation cost estimates. This process is an estimate to illustrate local funding projections versus local spending on maintenance and operation expenses. To offset any negative available cost projections, Benton County may consider additional revenue sources such as a Bond in order to provide local match funding. The finding is supported by Benton County's resolutions for local match for the specified grant funded projects. In conclusion, Benton County (in partnership with the city of Sauk Rapids) will be able to provide this local match without compromising maintenance and operation of the existing system.

City of Sartell

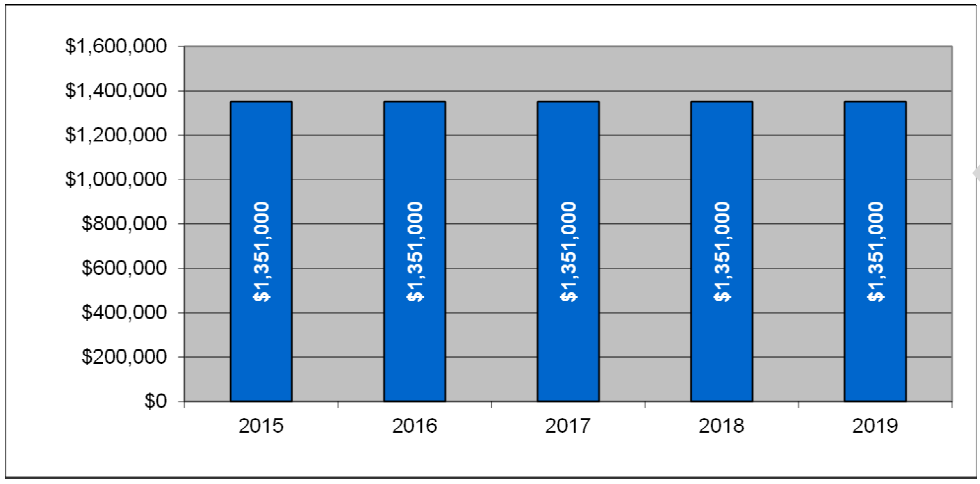
Current Financial Condition for City of Sartell:
Local Investment on Maintenance/Operations & Expansion (1990-2012 Annual Average)



Current Financial Condition:

Local Investment on Maintenance/ Operations and Expansion

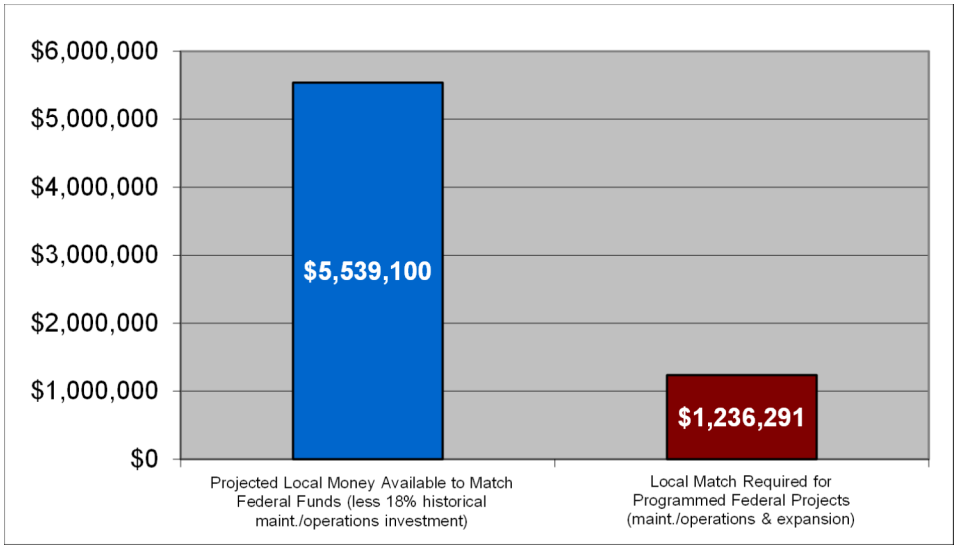
Future Financial Condition for City of Sartell:
2015-2019 Projected Local Investment for Maintenance/Operations & Expansion



Future Financial Condition (FFC):

2015-2019 Projected Local Invest-

Financial Capability for City of Sartell:
2015-2019 Projected vs. Actual Local Money Needed to Match Federal Funds



Financial Capability:

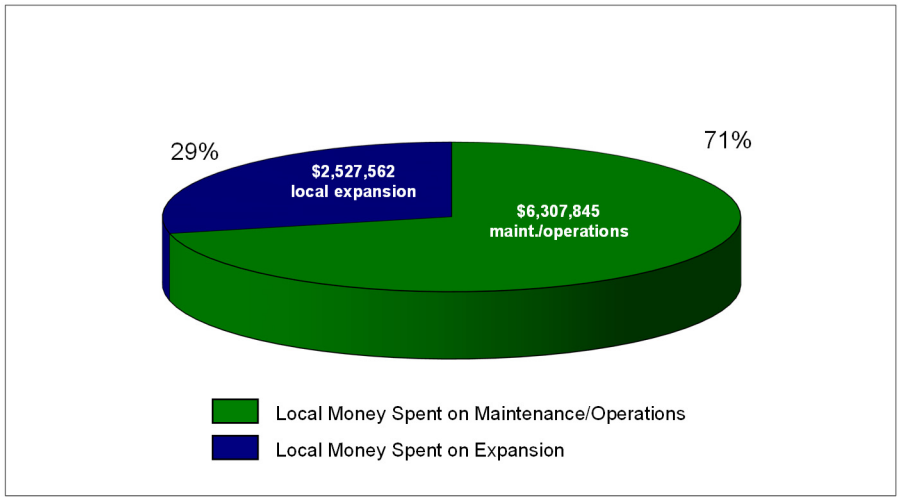
2015-2019 Projected Local Money (minus 18% for maintenance/ operations) vs. Actual Local Money Needed to Match Federal Funds Programmed in the 2015-2019 TIP

City of Sartell—Financial Capability Finding

Based on historic overall local funding and maintenance investment levels, approximately $5.5 million will be available to match federal funds from 2015 to 2019 without compromising maintenance of the existing system. The necessary local match for city of Sartell projects in the 2015-2019 TIP is $1,236,291. Sartell will be able to provide this local match without compromising maintenance and operation of the existing system.

City of St. Cloud

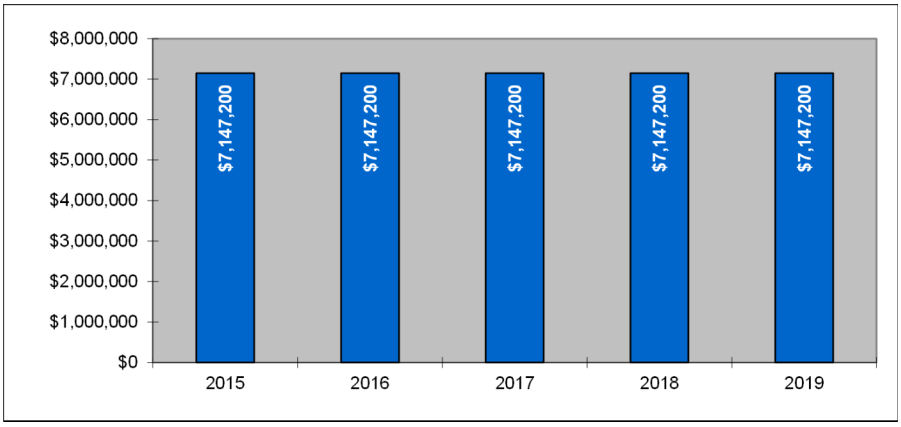
Current Financial Condition for City of St. Cloud:
Local Investment on Maintenance/Operations & Expansion (1990-2012 Annual Average)



Current Financial Condition:

Local Investment on Maintenance/ Operations and

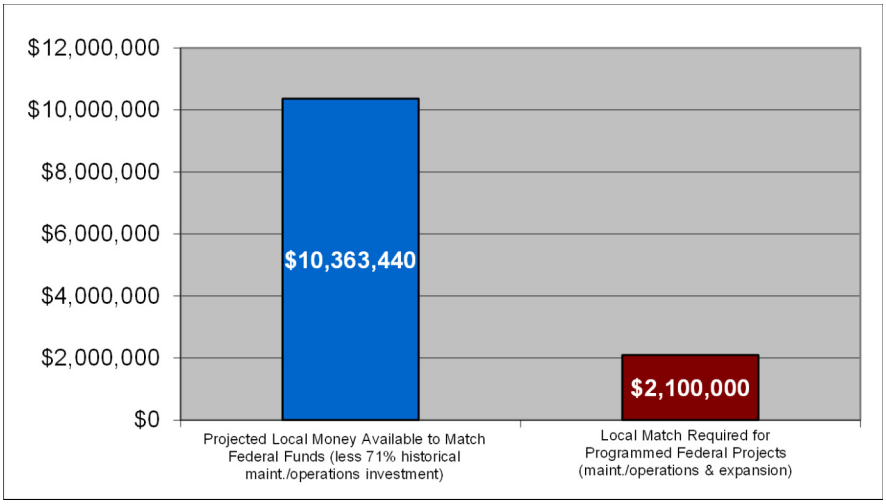
Future Financial Condition for City of St. Cloud:
2015-2019 Projected Local Investment for Maintenance/Operations & Expansion



Future Financial Condition (FFC):

2015-2019 Projected Local Invest-

Financial Capability for City of St. Cloud:
2015-2019 Projected vs. Actual Local Money Needed to Match Federal Funds



Financial Capability:

2015-2019 Projected Local Money (minus 71% for maintenance/ operations) vs. Actual Local Money

Saint Cloud—Financial Capability Finding

Based on historic overall local funding and maintenance investment levels, approximately $10.3 million will be available to match federal funds from 2015 to 2019 without compromising maintenance of the existing system.

This figure compares to a required local match of $2.1 million for city of St. Cloud projects programmed in the 2015-2019 TIP. Accordingly, the city of St. Cloud will be able to provide this local match without compromising maintenance and operation of the existing system.

Project Selection

Projects identified and programmed in the FY 2015-2019 APO TIP using local STP federal funding were selected under the APO 2035 investment target percentages and financial forecasts. As described above, APO conducts a project solicitation every two years for the APO's share of STP funds, which are a percentage of the ATP's allocation. The investment target percentages and financial forecast identified in this Plan are for 2020-2040. Projects were selected for the FY 2015-2019 TIP based on the valid Plan at the time of selection and adoption into the APO TIP.

Projects included in this Plan for FY 2015-2019 followed the 2035 Plan investment target percentages of 50 percent Expansion, 40 percent Preservation and Safety, and 10 percent Multi-modal for selection and programming purposes. APO maintained these percentages throughout the project solicitations that took place during the time the 2035 Plan was valid. For example, the 2035 Plan covered three APO project solicitations. Central MN ATP's portion of federal funds was higher during the first two solicitations under the 2035 Plan. The APO averaged $1.9 million per year over the first two solicitations and $1.56 million over the last solicitation. During the time the 2035 Plan was valid, the APO programmed projects consistent with the identified investment percentages at 52 percent Expansion, 38 percent Preservation, and 10 percent Multi-modal (2 percent is considered the level of error appropriate by the APO when following investment target percentages for programming purposes).

In addition, Expansion projects selected for STP funding in the FY 2015-2019 TIP were specifically identified in the 2035 Plan 20-year planning horizon and financial forecast. This was the valid Plan at the time of project programming and APO TIP approval. These projects are moved into the short-term, implementation portion of the 2040 Plan (prior to 2020) because funding is identified formally through local resolutions and committed to regionally through a detailed project selection process, ATP adoption process, and APO TIP approval process.

9.1 Chapter Introduction

This chapter discusses bicycle and pedestrian initiatives; non-motorized goals and objectives; safety; Education; regional enforcement efforts; key area infrastructure; the Safe-Routes-to-School (SRTS) program; approved multimodal funding; trip generators and barriers; facility maintenance & Development; etc.. This chapter will also provide a brief description of how Plan policies and MAP-21 planning factors are being addressed through current activities and how in the future the APO will continue to be vigilant toward policies and planning factors.

9.2 Goals, Objectives and Policies

The St. Cloud Metropolitan Area is a place where people will choose to bicycle and walk for everyday transportation and recreational purposes. Residents and visitors will be able to walk and bike safely, conveniently, and pleasurably on a well-designed, maintained, and connected system of sidewalks and bikeways. To further this vision, the following goals, objectives, and performance measures have been identified:

Figure 9-1: Goals, Objectives & Measures

Goal Area	Goal Statement	Objectives	Measure
Active Transportation	Develop and maintain a transportation system that integrates multimodal options for all users, while taking into account active living and public health initiatives	Integrate multimodal facilities along roadways, while providing safe circulation for both commuter travel and recreational use Invest in transportation alternatives that enhance transit, bicycle and pedestrian facilities and services for persons who cannot, or choose not to use motor vehicles Encourage context sensitive design principles into project development for corridors and transportation infrastructure that foster positive public health outcomes	Percent of investments spent on transit, bike, and pedestrian projects Increase the number of annual transit riders
Energy & Environment	Support transportation improvements that promote energy conservation, improve quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns	Incorporate context sensitive design principles into project development for Corridors and transportation infrastructure Avoid, minimize, and/or mitigate adverse social, environmental, and economic impacts resulting from existing or new transportation facilities.	Percent of transportation investments in environmental justice census tracts Reduction in CO2 emissions

9.3 Policy Recommendations

If measurable progress is to be made toward the vision, goals and objectives of this Plan, a set of uniform policies need to be adopted and implemented by all local member agencies in the St. Cloud Metropolitan Area. All these objectives along with future action items to improve access and mobility of the entire transportation system and safety and security of all transportation modes, while minimizing social, economic and environmental impacts. Listed below are the bicycle and pedestrian policy recommendations of this Plan.

- Adopt standards outlined in the MnDOT Bikeway Facility Design Manual (MnDOT, 2010), as well as the AASHTO Guide for the Development of Bicycle Facilities and include bicycle facilities in the construction and reconstruction of road and bridge projects consistent with this Plan.

- To provide safe access for children when traveling to schools, local jurisdictions should designate specific access points to all school sites and site plans should minimize walking in vehicle spaces and provide separated pedestrian and motor vehicle travel paths.

- Utilize abandoned railroad corridors, parks, greenways, and other public access lands for establishing bicycle and pedestrian paths.

- St. Cloud Metro Bus is encouraged to coordinate with local jurisdictions to make transit stops accessible and convenient for pedestrians and bicycles and the APO should continue inclusion of multi-modal points when prioritizing federal transportation projects.

- The APO shall maintain a record of bicycle and pedestrian crashes in the Metro Area.

- Increase bicycle and pedestrian network connectivity across jurisdictional through local coordination of improvement projects.

- Include pedestrian facilities on at least one side of all urban area roadways as infrastructure improvements occur within the developed urban core, promoting sidewalk connectivity throughout the network as new development occurs.

- Local jurisdictions should provide safe, convenient pedestrian access at intersections that complies with all Americans with Disabilities Act (ADA) provisions.

9.4 Funding

In 2009, the APO's Technical Advisory Committee agreed to funding targets that included provisions for transit and non-motorized transportation projects. Operating under this approach, of the Federal Transportation Improvement Program dollars that the APO receives, 10 percent was spent on either transit or bicycle/pedestrian projects over a 5-year period, with the flexibility to spend it over 1 year for larger projects or spread it out over the entire 5 years. During this period the APO's Transportation Improvement Program investment target percentages were (50% expansion/40% preservation/10% multi-modal). All APO funded road and bridge expansion projects over the last 10 years have been and will continue to be encouraged to incorporate bike/pedestrian facilities through scoring/project evaluation and prioritization process.

With recent changes in MAP-21, all Bicycle & Pedestrian focused projects will now be funded through the Transportation Alternative Program (TAP). Current projections anticipate that 14 percent of all Federal funding received by the APO will be through the TAP process, eclipsing the APO's 10 percent multi-modal funding goal from the 2035 Plan. Due to the separation of the federal funding sources, the APO no longer includes a separate multi-modal investment target for the general STP funds (See the Financial Forecast chapter for more details). Committing to these investments supports multi-modal solutions that will improve the movement of all users of the transportation system. A multimodal approach supports metropolitan vitality and improves the quality of life by creating a more efficient and balanced transportation system.

9.5 Bicycle Facility Maintenance

- Local cities and counties should develop bicycle parking/storage requirements for incorporation into local zoning ordinances, subdivision regulations, and building permit requirements. Local ordinances should encourage bicycle-parking/storage facilities to be situated in highly visible locations that provide for safe and convenient access for bicyclists.

- Local cities and counties should encourage employers to provide conveniently located, safe, and whenever possible, weather protected bicycle parking for employees.

- Bicycle facilities within urban areas should be well lighted to increase user visibility and safety.

- The maintenance of designated bike facilities should be included in the regular spring through fall street maintenance schedule of local cities and counties, with high priority given to designated bicycle lanes and should provide a minimum of eight (8) foot vertical clearance and two (2) foot horizontal clearance on both sides of a bikeway at all times.

Figure 9-2: APO Complete Streets Resolution (2011)

Resolution 2011 - 09
St. Cloud Area Planning Organization
Resolution Supporting Complete Streets in the St. Cloud Metropolitan Area

WHEREAS, the objective of Complete Streets is to design and build roadways that safely and comfortably accommodate all users of roadways, including motorists, cyclists, pedestrians and transit riders; and

WHEREAS, Complete Streets are essential in providing safe routes to school for children; and

WHEREAS, the St. Cloud Area Planning Organization (APO) promotes an effective multimodal, transportation system that is safe, efficient and convenient; and

WHEREAS, the St. Cloud APO supports transportation improvements that encourage walking, biking and transit and offers the potential for improved public health, economic development and cleaner environment; and

WHEREAS, the St. Cloud APO recognizes that coordinated development of bicycle, pedestrian and transit infrastructure offers long term cost savings and opportunities; and

WHEREAS, the St. Cloud APO will promote the Complete Streets concept and encourages jurisdictions within the APO planning area to adopt a Complete Streets document, and implement Complete Streets when feasible; and

WHEREAS, in the St. Cloud Metropolitan Area 2035 Transportation Plan, it was identified that the APO will support multimodal transportation opportunities, including Complete Streets; and

WHEREAS, the St. Cloud APO is committed to providing leadership and guidance to member jurisdictions to encourage consistent implementation of policy and design.

NOW, THEREFORE, BE IT RESOLVED, that the St. Cloud Area Planning Organization affirms its support of Complete Streets and the need to provide transportation for all users of all ages and abilities.

5/26/11 5/26/11

Chair Date Executive Director Date

9.6 Existing Infrastructure

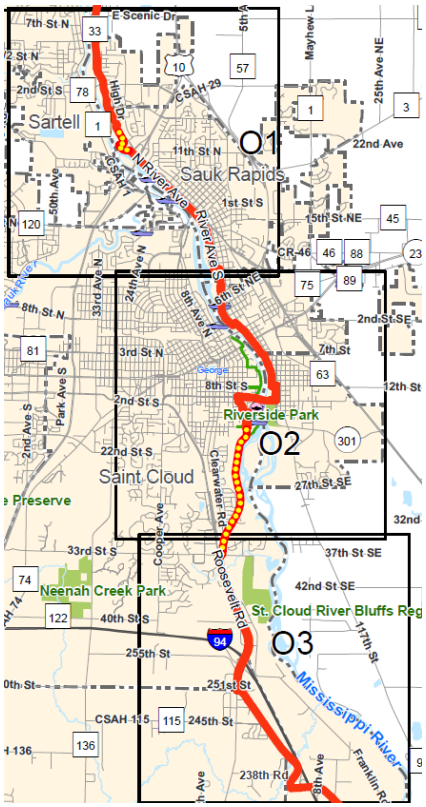
Over the last several years bicycling and walking as a means of transportation and commuting has taken a more visible role in communities throughout the area. In response to the increasing demand for recreational trails and commuter routes, the St. Cloud Metro Area has made significant investments in non-motorized infrastructure over the last decade, including expansions of both the Lake Wobegon and Beaver Island Trail systems and other off road trail facilities. These improvements along with future infrastructure expansions are critical to providing a functional non-motorized transportation network. In addition to the regional trail systems, ongoing sidewalk improvement projects as well as wide shoulders and designated bike lanes throughout the metro area have been funded through federal transportation funding, including Surface Transportation program (STP) and more recently the Transportation Alternatives Program (TAP). These collective improvements aid in serving the needs of all transportation network users.

Figure 9-3: Lake Wobegon Trail

Figure 9-4: Beaver Island Trailhead

Large-scale, regional, infrastructure improvements are predominantly related to trail systems, while sidewalk improvements are taking place on a smaller, more neighborhood level scale within each jurisdiction and/or APO efforts with Safe Routes to School. Providing a connection between sidewalk and trail systems is an ongoing effort. Additionally, several other large regional trail projects have continued to see progress with on-going help through various APO planning processes including the Mississippi River Trail (MRT), which is a 10-state cycling route that travels over 2,000 continuous miles between the headwaters of the Mississippi at Lake Itasca to the Gulf of Mexico. Within the APO region the MRT primarily is a 'On-Road' bike facility which travels along River Avenue running parallel to the Mississippi on the Eastern shore before crossing the University Drive bridge and joining with the 'Off-Road' Beaver Island Trail to CSAH 75 and continuing as 'On-Road' towards Clearwater. For more information on the MRT, see http:www.mississippirivertrail.org. Map 9-1 illustrates the local section of the MRT.

Map 9-1: MRT route through APO area



9.7 Coordinated Bicycle and Pedestrian counts

The Minnesota Department of Transportation (MnDOT) is collaborating with local planners and other various stakeholders on a project to support and expand the counting of bicyclists and pedestrians in communities across Minnesota. The long-term goals of the project are to measure non-motorized traffic volumes, provide the evidence needed for efficient investments in bicycle and pedestrian infrastructure, and inform programs to insure bicycle and pedestrian safety. A key task in the project is to develop and test a standardized approach to manual counting of bicyclists and pedestrians that local jurisdictions can adapt and use in their own communities. Additionally, the Minnesota Department of Health (MDH) is working with Statewide Health Improvement Program (SHIP) grantees to conduct bicycle and pedestrian counts where work is being done to support active transportation. SHIP grantees throughout the state will be participating in trainings to assist with counts in local communities. In accordance with these efforts the APO has worked in coordination with MnDOT and various local groups to provide employees and volunteers to help collect data twice annually at several high-traffic locations to develop bike/pedestrian related inventory to establish a database. The APO hopes to continue to build upon current bike/pedestrian data to track key infrastructure and ridership trends in the area.

Figure 9-5: APO Bicycle & Pedestrian counts

2013 APO 2-Hour Counts on September 16-19, 2013

Count Location	Date Counted	Weather	Number of Bicycles	Number of Pedestrians	Total Count (Sept. '13)	Total Count (May 2013)	Total Count (September '12)
Beaver Island Trail South of SCSU	9/17/13	60 F, Overcast/Windy	10	71	81	38 & 79	98
2nd St. N/Benton Dr. Bridge and Helix in Sauk Rapids	9/18/13	69 F, Cloudy	13	7	20	27 & 41	88
Pine Cone Rd. Trail at 1st in Sartell	9/16/13	63 F, Sunny	24	18	42	55	49
Lake Wobegon Trailhead in St. Joseph	9/18/13	69 F, Cloudy	6	6	12	67 & 66 & 39	26
Healthy Living Trail on 3rd St. in Waite Park	9/17/13	65 F, Overcast/Windy	5	10	15	21	28
Veterans Dr. and CR 138 path over river in St. Cloud	9/18/13	69 F, Cloudy	12	3	15	16	13
SCSU Ped bridge over University Ave.	9/16/13	65 F, Sunny	63	761	824	272	New location
Division and 5th Ave. N St. Cloud (North-South crossing)	9/17/13	66 F, Cloudy	27	108	135	89	New location
Division and 5th Ave. N St. Cloud (East-West crossing)	9/17/13	66 F, Cloudy	26	25	51	34	New location
33rd Ave. and 2nd St. S St. Cloud	9/18/13	69 F, Cloudy	6	28	34	33	New location

9.8 Bicycle & Pedestrian Advisory Committee

The St. Cloud APO Bicycle and Pedestrian Advisory Committee (BPAC) is comprised of staff representing state, regional, and local jurisdictions, business owners, advanced and recreational cyclists, avid walkers, and other interested citizens. BPAC, in collaboration with APO Staff, drafted the vision statement at the beginning of the previous chapter which is intended to guide bicycle and pedestrian planning efforts for the St. Cloud Area. APO Staff has been working with the BPAC to identify planning activities that support non-motorized solutions such as Complete Streets initiatives, bike/pedestrian counts, walk-to-school and area bike days, prioritizing bike/pedestrian projects, and bicycle/pedestrian marketing.

9.9 Safe Routes to School

According to the FHWA, in 1969, about half of all students walked or bicycled to school. Currently, less than fifteen (15) percent of student walk or bicycle to school. Nearly twenty-five (25) percent of students use bus transportation, while more than fifty (50) percent of children are transported to school via private automobiles. The reduction in student walking and bicycling has corresponded with an increase in several adverse community impacts such as increased traffic congestion, decreased bicycle and pedestrian safety, and steadily increasing rates of childhood obesity. Safe Routes to School (SRTS) aims to directly address the systemic impacts of reduced non-motorized student transportation. Specific funding opportunities are available for school districts to embark on educational programming as well as needed infrastructure improvements. The primary goal of SRTS is that through educational activities such as street-crossing safety training and bike rodeos or infrastructure improvements such as sidewalk and crosswalk construction, that communities can actively support and encourage students and their caregivers to participate in non-motorized transportation activities. The Safe Routes to School (SRTS) Program was established in August 2005 through the federal transportation bill, SAFETEA-LU. The bill provides funding for each state Department of Transportation to establish a SRTS program. SRTS has continued to provide funding under MAP-21 now as part of the federal Transportation Alternatives Program (TAP). Additionally, SRTS is funded under the Minnesota State SRTS program.

The APO in cooperation with the Cities and School Districts of St. Cloud, Sartell and Sauk Rapids, as well as Central Minnesota's Better Living through Exercise and Nutrition Daily (BLEND) have successfully competed in the SRTS grant solicitation. In particular, this region has benefitted from the efforts of BLEND, helping to promote all 5 E's of the National SRTS mission; Evaluation, Engineering, Education, Encouragement and Enforcement. Through collective efforts Westwood Elementary received funding in order to create a safer environment for students who walk and bike to school and community members that utilize the splash pad, park and playground adjacent to the school. In 2014, Pleasantview Elementary School is programmed to receive federal funding for engineering & Construction for sidewalks immediately adjacent to the school. Additionally, Oak Hill and Pine Meadow Elementary along with Sartell Middle School have also recently received SRTS planning grants. Infrastructure improvements will continue to help improve connectivity for kids traveling to and home from area schools. The APO is committed to build upon our existing SRTS efforts and to expand SRTS efforts into more of our area schools. In the future, planners and school districts need to work more closely on school site location to better integrate future school expansions into existing infrastructure.

9.10 Safety, Education, & Regional Enforcement Efforts

To help illustrate the importance of safety measures in transportation infrastructure we acquired data from the Minnesota Department of Transportation (MnDOT) detailing the number of reported crashes involving motor vehicles and bicyclists/pedestrians between 2009-2013. During this 5-year period within the St. Cloud Area boundary there were 5 crashes resulting in fatalities, 22 crashes resulting in serious injuries, and the remaining 239 crashes were classified as resulting in either non-serious or possible injuries. Map 9-6 illustrates this crash data. It is difficult to pinpoint a single root cause that applies to all crashes. Contributing factors are unique to each crash incident. However, based on

available data and input from law enforcement officers, crashes can reasonably be grouped into two broad categories: operator error and facility design/engineering. The important issue to examine from a regional perspective is how to better educate all transportation users about appropriate motorized and non-motorized mode interactions and how to assist local jurisdictions with facility design considerations.

Section 217 of Title 23 of the U.S. Code calls for the integration of bicycling and walking into the transportation mainstream. More importantly, it enhances the ability of communities to invest in projects that can improve the safety and practicality of bicycling and walking for everyday travel. In part this may be achieved through collaboration with law enforcement agencies to enforce safe and legal biking and walking practices. In addition, Section 504 of the Rehabilitation Act of 1973 (Section 504) (29 U.S.C. §794) and Title II of the Americans with Disabilities Act of 1990 (ADA) (42 U.S.C. §§12131-12164) requires that pedestrian facilities and shared bicycle-pedestrian facilities on public rights of way be accessible to and usable by persons with disabilities. The APO encourages participating agencies to construct walkways and bikeways in compliance with applicable ADA standards. The APO and its member jurisdictions recognize that transportation projects must comply with the American Disabilities Act Accessibility Guidelines (ADAAG) and the Public Right of Ways Accessibility Guidelines (PROWAG).

The APO supports all member jurisdictions in the process of developing a bicycle and pedestrian plan as either a stand-alone document or as an integrated component of their land use plan. As communities throughout the region initiate and continue planning for non-motorized transportation the expectation is that these efforts will eventually be a streamlined and integrated as part of the overall land use, transportation, and development planning process. The APO continues to encourage awareness of the rights and responsibilities of bicyclists and pedestrians within the overall transportation network, including the awareness on the appropriate interactions between motorized and non-motorized users of the transportation network.

9.11 Promotion and Social Support

- Develop a map of designated facilities in the St. Cloud Metropolitan Area, and distribute this map through local stores, Convention and Visitors Bureau, Chamber of Commerce, etc.
- Cooperate with the Minnesota Department of Natural Resources (DNR) Division of Trails and Waterways to connect State Bicycle/Pedestrian Trails, such as the "Glacial Lakes State Trail," to the St. Cloud area bikeway network.
- Identify funding for, and develop an annual St. Cloud Metropolitan Area Bicycle, Pedestrian, and In-Line Skating Safety Awareness Month, with the support of local media, local jurisdictions, and local interest groups.
- Encourage local jurisdictions, businesses, and other interested groups to support and promote national and local events that encourage bicycling, walking, and in-line skating (i.e. National Bike to Work Week, 'Caramel Roll Ride', Lake Wobegon Trail Marathon, etc.)
- To facilitate bicyclists' navigation along the bikeway network, and contribute to safer bicycling conditions, local cities and counties to encourage and provide adequate bike signage on all designated bike routes, bike lanes, and bike paths in the St. Cloud Metropolitan Area

Manual of Uniform Traffic Control Devices).

- Promote 'Bike Sharing' facilities such as 'Nice Ride' implementation at strategic locations Downtown, SCSU campus and Trailheads, etc..

9.12 Bike Sharing

A bicycle sharing system is a service in which bicycles are made available for shared use to individuals on a very short term basis. The main purpose is transportation: bike share allows people to depart from point "A" and arrive at point "B" free from the worries of ownership. Bike-share has seen extensive growth globally over recent years. As of April 2013 there were around 535 bike-sharing programs around the world, made of an estimated fleet of 517,000 bicycles. In May 2011 there were around 375 schemes comprising 236,000 bikes. So those two years saw a doubling of bike share globally. Bike-share use is made more predictable with Smartphone mapping apps which show where nearby stations are located and how many bikes are available at each station. This is also important for riders looking to return a bike, they need to know if there is a dock open at a certain station, since stations can fill up with bikes. So using bike-share to get around a city is made far easier with real-time, GPS-based smartphone apps with bike-share station information overlaid on a city map.

Figure 9-6: Nice Ride Bike Share

The reasons people use bike-share vary considerably. In some cities, people who might use their own bicycle as transportation don't do so because of concerns about theft or vandalism. In addition, many bike-share users find bike-share extremely liberating. A rider can seamlessly transfer to public transit or to a car without concern about leaving a bike behind: a person can ride to meet someone in a city, leave the bike-share bike then walk with them, tourists go from hotel to museum to show, citizens can take visiting friends or family to local attractions with bike-share. Bicycle sharing systems can be divided into two general categories: "Community Bike programs" organized mostly by local community groups or non -profit organizations, and "Smart Bike programs" implemented by government agencies, sometimes in a public-private partnership. The central concept of these systems is to provide free or affordable access to bicycles for short-distance trips in an urban area as an alternative to motorized public transport or private vehicles, thereby reducing traffic congestion, noise, and air pollution. Bicycle sharing systems have also been cited as a way to solve the "last mile" problem and connect users to public transit networks. With the support of Blue Cross and Blue Shield of Minnesota, Nice Ride (the Twin Cities Bike Sharing program) is beginning a new Greater Minnesota Initiative to expand the program to selected out -state locations. The APO supports coordinated efforts in being one of the 1st out-state cities selected for Bike Sharing expansion programs. With numerous trails across

9.13 Bicycle and Pedestrian Trip Generators

The goal when initiating a bicycle and pedestrian plan is to establish the safest and most direct route to major trip generating areas. In order to fulfill this goal, planners must look at existing land use and transportation infrastructure. The trip generating areas in the Metro Area include schools, libraries, transit stations, recreation centers, government buildings, retail centers, park and recreation areas, businesses, health care facilities, and residential areas.

9.14 Bicycle and Pedestrian Trip Barriers

To establish a successful and interconnected system of bikeways and walkways in the St. Cloud Metropolitan Area, the APO and local jurisdictions must ensure bicyclists and pedestrians have safe means of crossing barriers such as rivers and streets with high volumes and traffic speeds, as well as less obvious barriers such as pedestrian curb ramps that are not compliant with current accessibility standards. To accommodate the slower speeds of bicyclist and pedestrians, implementing agencies should consider improvements to the barriers identified in this Plan. Several trip barriers within the St. Cloud Metro Area have been identified and are illustrated in Map 9-6.

9.15 Bicycle and Pedestrian Potential Future Projects

Figure 9-7 lists bicycling facility projects which the APO along with the TAC and BPAC have identified for future priority when funding is made available, these projects are featured on Map 9-4. The following series of maps representing the APO planning area include; Existing On/Off-Road Bike Facilities; Bikeway Destinations; Priority Future Bikeways, Bicycle Level of Service; Bicycle Trip Barriers; and Bicycle and Pedestrian related crashes between 2009-2013.

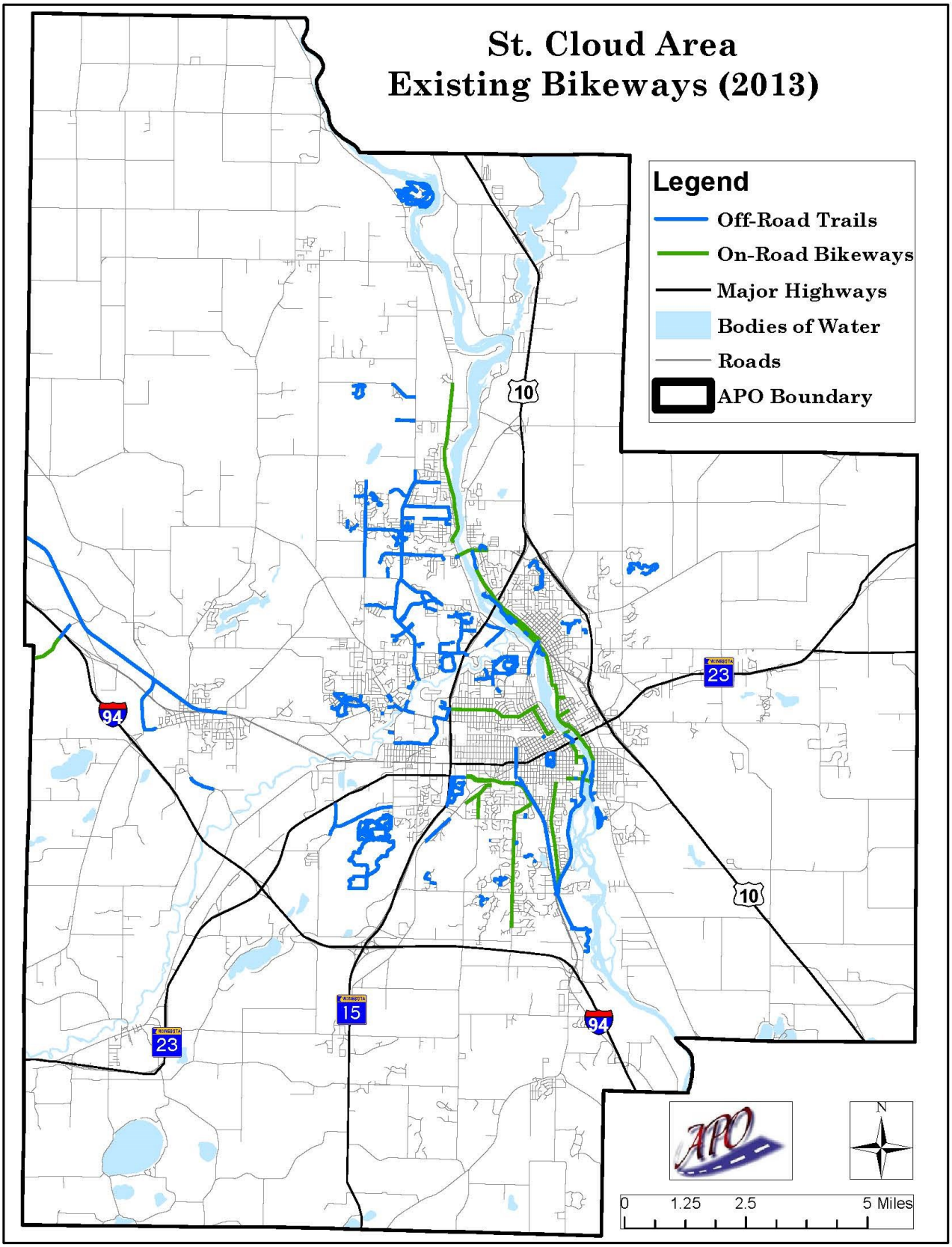
Figure 9-7: List of APO Potential Future Bikeways

St. Cloud APO Potential Future Bikeways

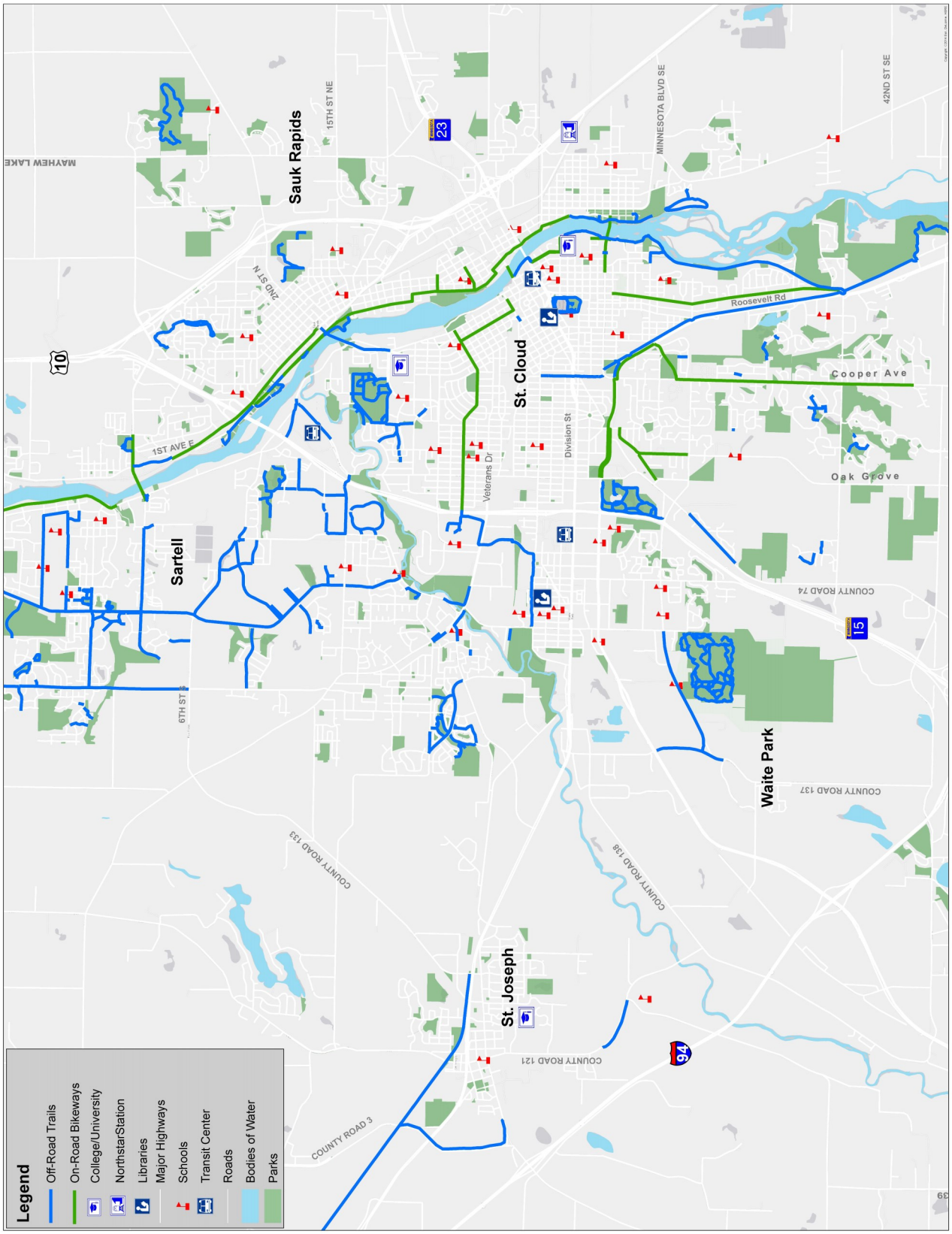
Location	Municipality	Origin/Destination	Distance (Miles)	Type
Rocori Trail Ext.	Rockville-Waite Park	Pine St. (Rockville)-Rivers Edge Park	8.51	Off-Road
33rd St. South	St. Cloud	Quarry Park-County Rd 75	3.9	Off-Road
Beaver Island Trail Ext. (south)	St. Cloud	40th St. S.-APO Boundary (Opportunity Dr.)	3.59	Off-Road
Lake Wobegon Trail Ext. (west)	St. Joseph-St. Cloud	County Rd 133-Rivers Edge Park	3.48	Off-Road
22nd St. South/7th St. South	St. Cloud-Waite Park	10th Ave. S.-Cooper Ave. S.	2.63	YTD
Lake Wobegon Trail Ext. (east)	St. Cloud	Highway 15-Downtown St. Cloud	2.56	Off-Road
10th Ave. South	Waite Park	7th St. S.-Veterans Dr.	2.07	YTD
2nd St. North/Golden Spike Rd.	Sauk Rapids	N Benton Dr.-Mayhew Lake Rd. NE	2.01	Off-Road
Cooper Ave./25th Ave. North	St. Cloud	3rd St. N.-15th St. N.	1.66	YTD
County Rd 2	St. Joseph	Minnesota St.-Kraemer Lake	1.65	YTD
College Ave.	St. Joseph	Lions Park-Lake Wobegon Trail	1.6	YTD
Whitney Park (36th Ave N-Park Dr-19th St N)	St. Cloud	12th St N-Stockinger Dr	1.57	YTD
Heritage Dr./River Oaks Ln./River Vista. Ln.	Sartell	Huntington Dr. S.-County Rd. 120	1.3	Off-Road
Beaver Island Trail Ext. (north)	St. Cloud	1st St. N.-11th St. N.	1.13	Off-Road
15th Ave. Southeast	St. Cloud	University Dr. SE-Liberty Glen	1.02	On-Road
University Dr. South	St. Cloud	Cooper Ave. S.-5th Ave. S.	1.02	YTD
Whitney Park (321st St/Mill Pond Dr)	St. Cloud	River Ave N-Forest Dr	0.89	YTD
Mayhew Lake Rd.	Sauk Rapids	Golden Spike Rd.-Sauk Rapids/Rice High School	0.78	Off-Road
County Rd. 1	Sartell	9th Ave. N.-County Rd. 120	0.74	YTD
University Dr. Southeast	St. Cloud	Riverside Dr. SE.-15th Ave. SE.	0.66	On-Road
County Rd. 134	St. Cloud	Chestnut Ct.-Spruce St./Timberdoodle Dr.-Pinecone Rd. S.	0.53	Off_Road
5th St. South	St. Cloud	3rd Ave. S.-Lake George	0.49	On-Road
Veterans Dr.	St. Cloud	44th Ave. N-Municipal Athletic Complex (MAC)	0.44	Off-Road
County Rd. 137	Waite Park	Bel Clare Dr.-Meadow Ln.	0.41	Off-Road
Whitney Park (Northway Dr)	St. Cloud	9th Ave N-Whitney Park	0.29	YTD
Riverside Park/Talahi Park	St. Cloud	southern edge of Riverside park-Talahi Park Loop Trail	0.27	Off-Road
East St. Germain St.	St. Cloud	Mississippi River-Wilson Ave. NE.	0.24	On-Road
Total Bikeway mileage			45.44	

* YTD = bike facility type yet to be determined

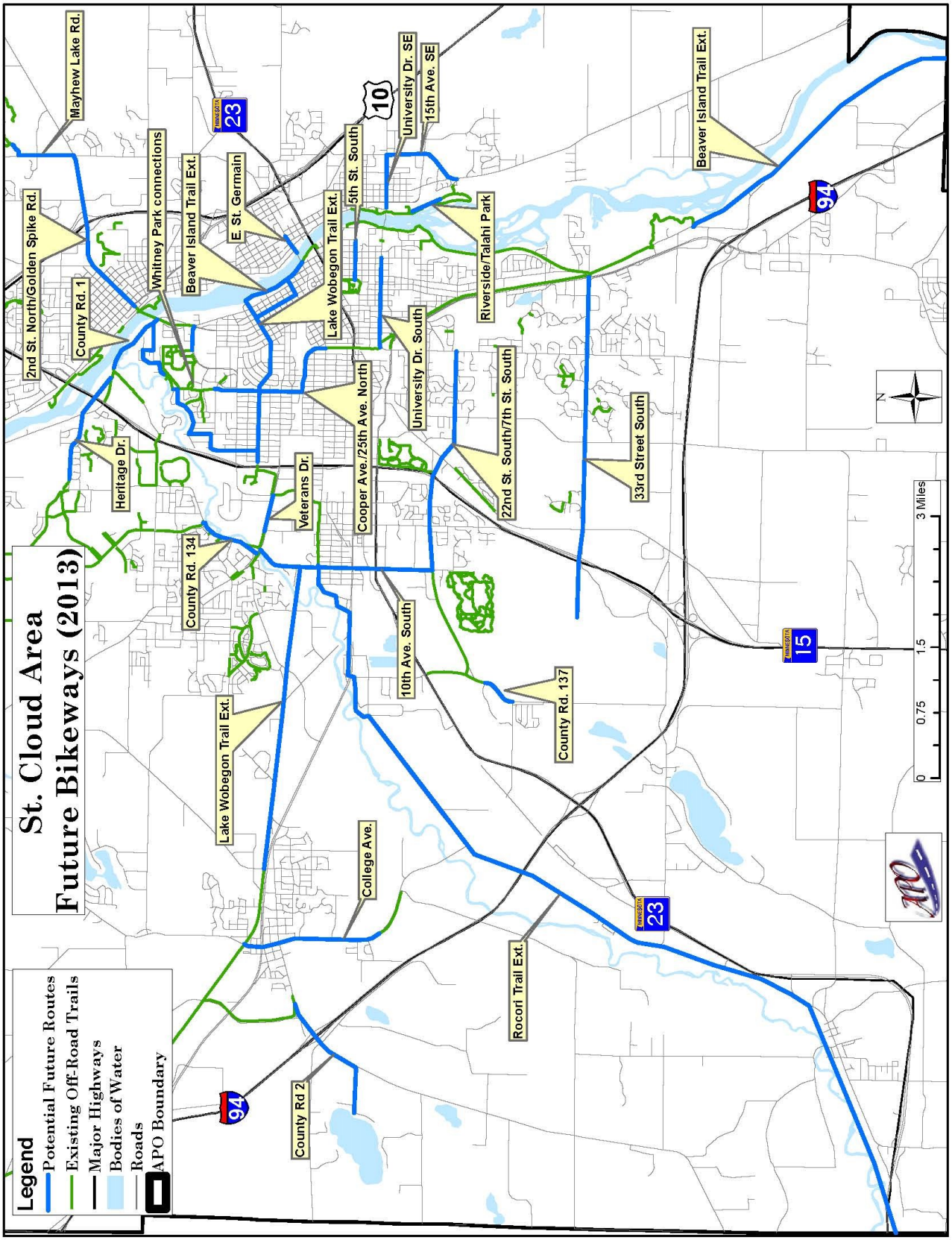
Map 9-2: St. Cloud Metro Existing Bikeways (2013)



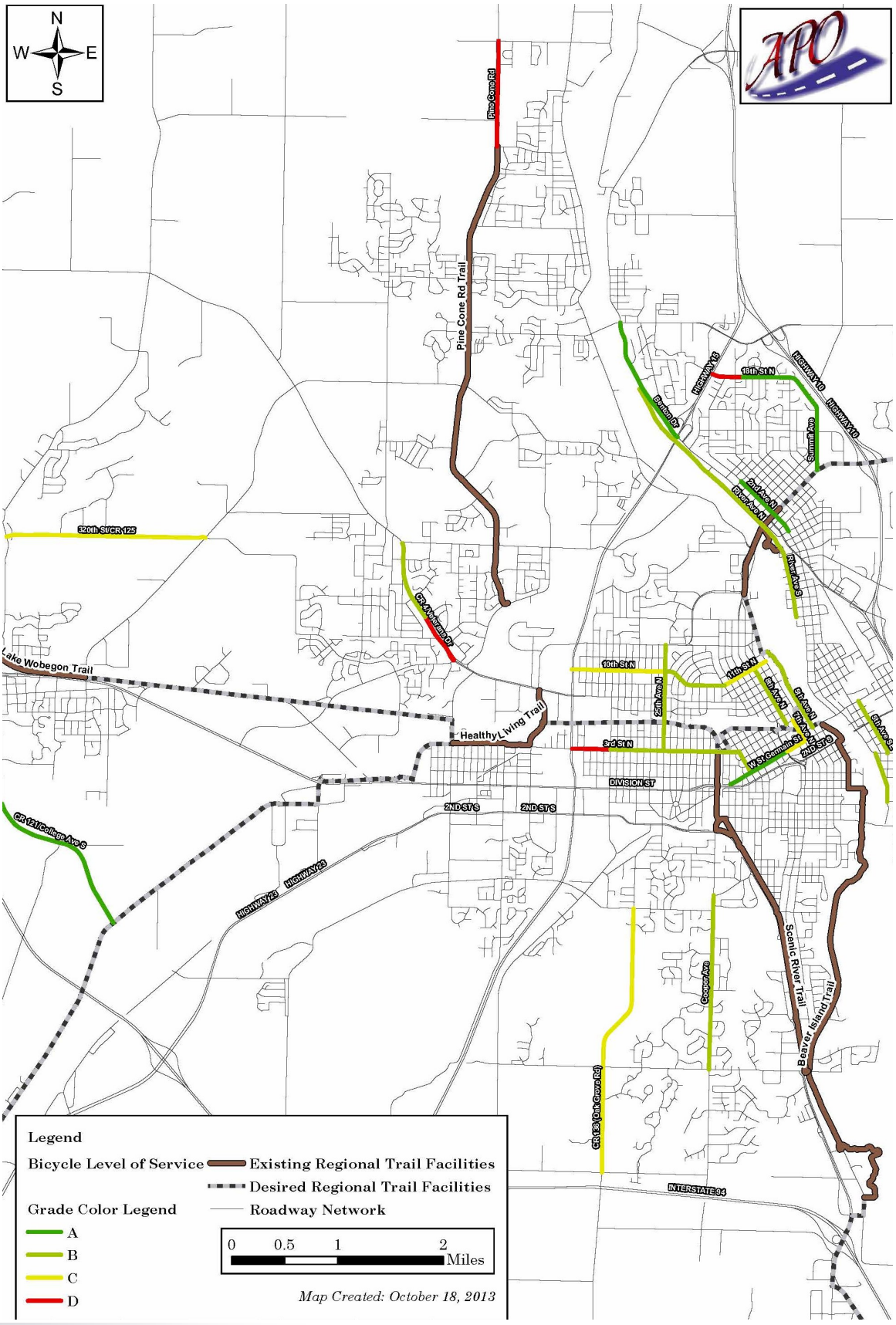
Map 9-3: St. Cloud Metro Existing Bikeways zoomed in with destinations (2013)



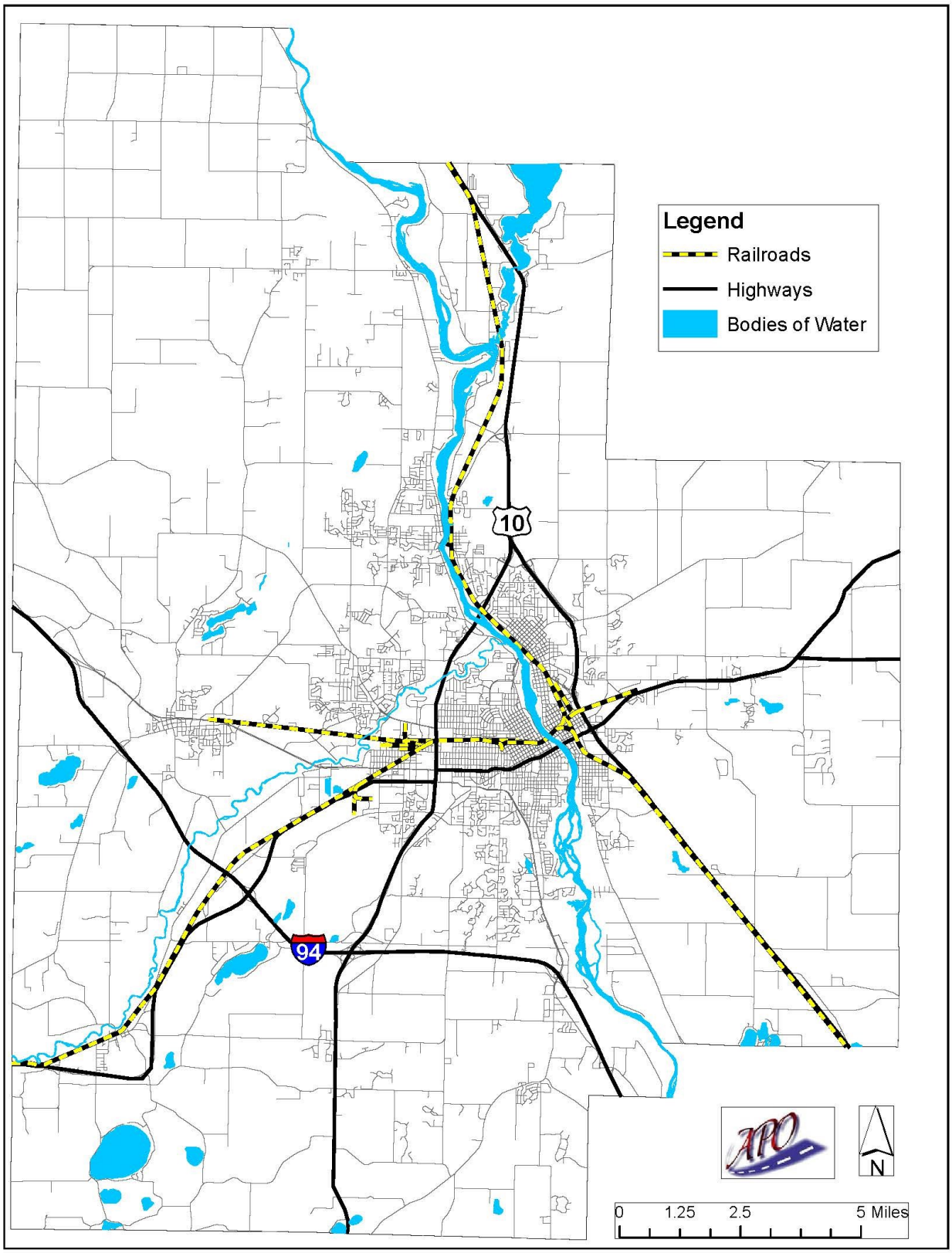
Map 9-4: St. Cloud Metro Potential Future Bikeways (2013)



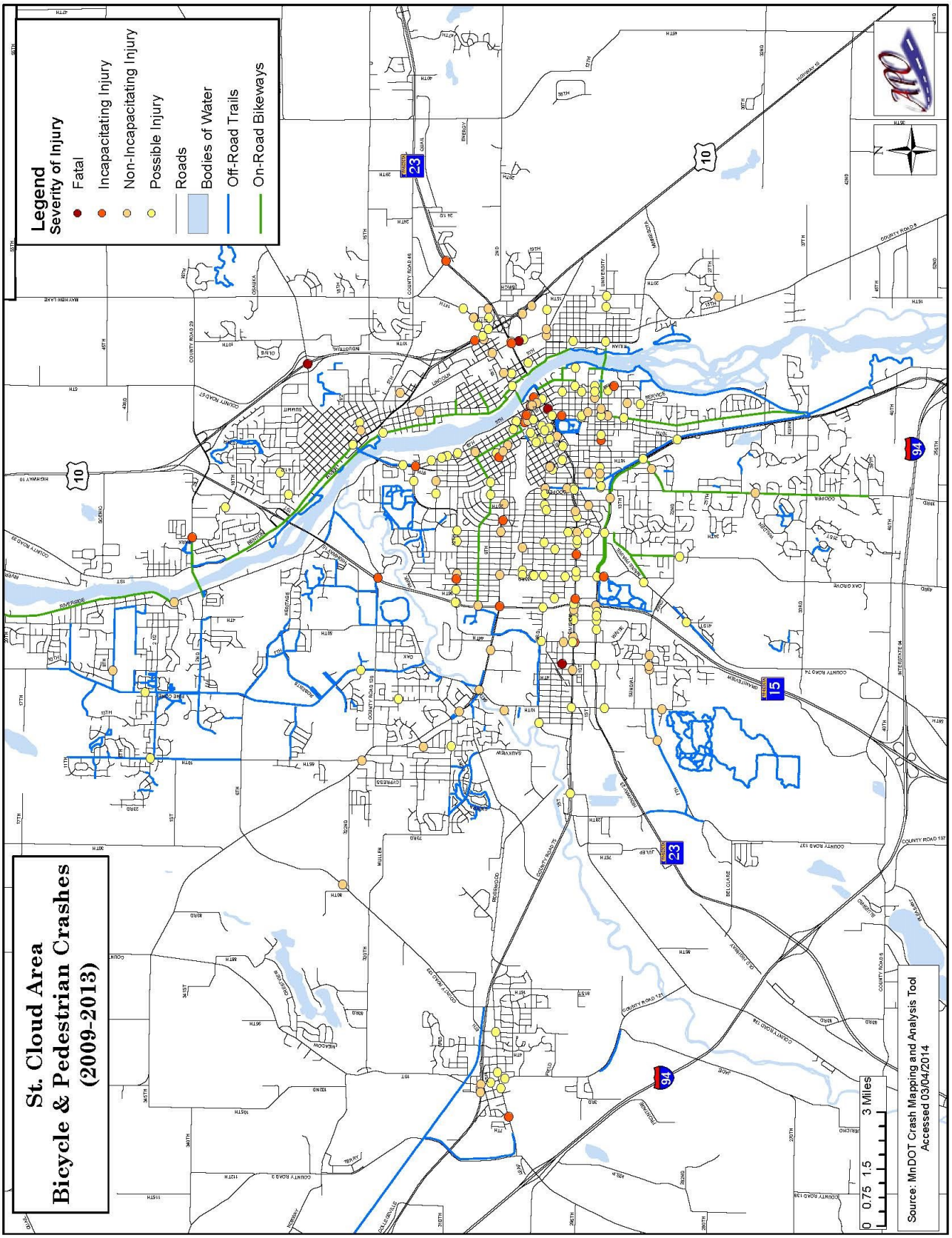
Map 9-5: St. Cloud Metro Bicycle Level of Service (2013)



Map 9-6: St. Cloud Metro Trip Barriers (2013)



Map 9-7: St. Cloud Metro Bicycle & Pedestrian Crashes (2009-2013)



10.1 Chapter Introduction

This chapter discusses public transportation and corresponding ridership (shares) by provider in the St. Cloud Metropolitan Area. Specific ridership, service hour, capital resources, revenue, financial trend information will be provided, as appropriate for St. Cloud Metro Bus fixed route and Dial-a-Ride service, and Tri-CAP rural bus system. Additional information has also been included regarding Northstar Link Commuter Coach, Jefferson Lines intercity bus service, and Amtrak intercity passenger rail and Northstar commuter rail service.

Transit projects are eligible to apply for APO federal STP funds as part of the preservation category investment target. See Financial Forecast chapter for more details. Federal funding helps maintain and preserve existing transit service, improve access and mobility of people and freight by reducing the number of vehicles on area roadways, and improve the quality of life in the St. Cloud Metropolitan Area by providing investments for a balanced transportation system. APO staff actively participated in the 2010 Metro Bus "Moving Forward" Long Range Plan Update. The Plan offered recommendations and financial predictions for service and infrastructure improvements to maximize ridership and transit investments, while helping to improve the safety and security of the entire system. Restructuring routes are meant to improve ridership performance while balancing for maximum efficiency will help reduce overall bus vehicle emissions, therefore minimizing impacts on the environment.

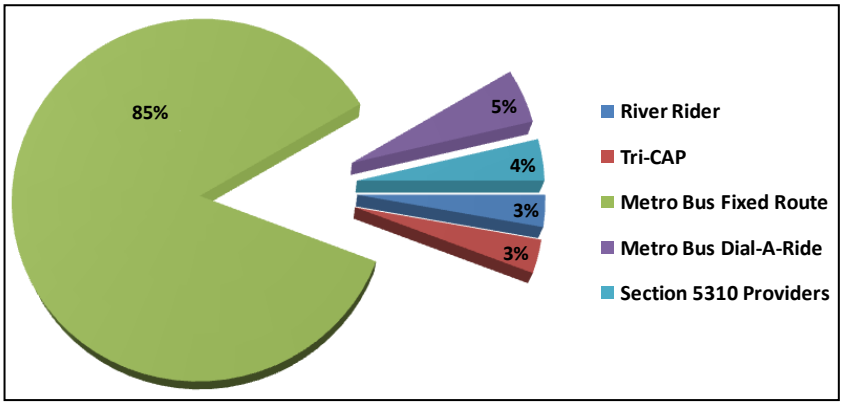
In the future, APO will assess and incorporate "Transit Services" action items listed in Chapter 16: Implementation as appropriate into the Unified Planning Work Program (UPWP) to continue to work toward addressing transit policies and focus on MAP-21 planning factors.

10.2 Transit Background

The availability of transit services in the St. Cloud Metropolitan Area has continued to increase over the last several years. The region is currently served by one urban bus provider, two rural bus systems, Inter-city motorcoach service, several private non-profit providers, and private for-hire carriers. Figure 10-1 illustrates the total ridership shares of publicly funded bus providers in the St. Cloud Metropolitan Area. Metro Bus is the largest transit
services within the urban St. Cloud Ar
CAP is a smaller rural bus system tha
operates outside the Metro Bus servic
area and Section 5310 programs
encompass private non-profit entities
provide transportation services for the
elderly and disabled populations withi
the greater St. Cloud Area. River Ride
was the other primary rural service th
offered trips in the area. As of July 1,
however, River Rider no longer exists.
Trail Blazer has replaced much of the

Total Ridership Shares (Publicly Funded Bus Providers)

Figure 10-1: Total Ridership Shares of Publicly Funded Bus Providers



Service offered in Wright County, while Tri-CAP will replace Sherburne County coverage.

Commissioned by St. Cloud Metro Bus, Northstar Link commuter bus service was initiated in 2009 to complement Northstar Corridor Commuter Rail that provides commuter passenger rail service from Big Lake to Minneapolis. Planning continues for expanded passenger rail opportunities in anticipation of an extension of the Northstar Corridor Commuter Rail service from Big Lake to St. Cloud. Further information on Northstar will be included at the end of this chapter.

10.3 Metro Bus System

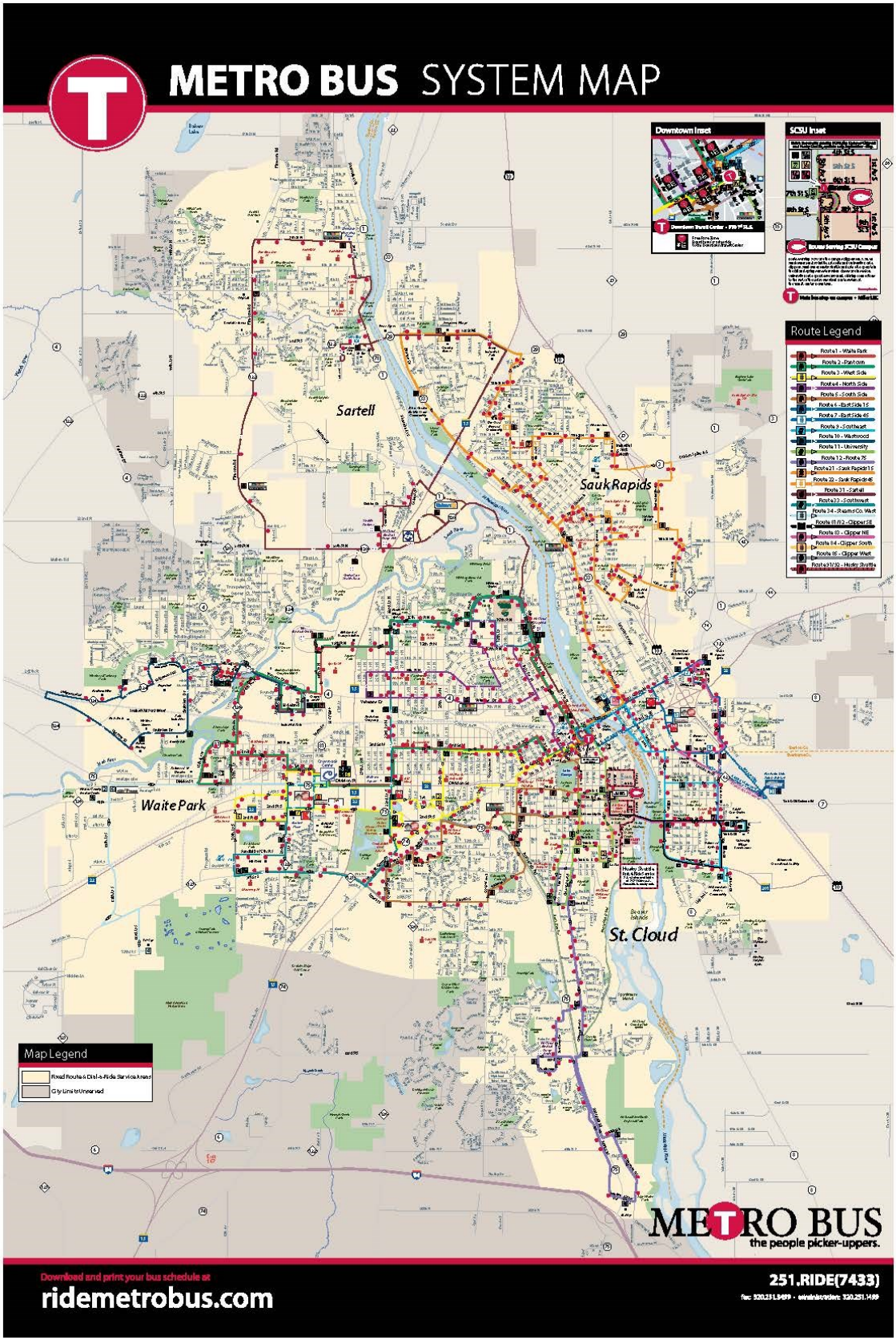
Metro Bus is a transit authority, created in 1969, as a political subdivision of the State of Minnesota. It is responsible for the daily management, operation, and maintenance for both Fixed Route and Dial-a-Ride systems. Employing 150 full- and part-time personnel, Metro Bus provides stable, consistent and comprehensive transit services for the cities of St. Cloud, Sartell, Sauk Rapids, and Waite Park. Metro Bus provides service coverage throughout the four-city transit service area making connections between and among neighborhoods, businesses, and retail centers. Many of the areas served satisfy traditional transit needs based on income, elderly populations, high density residential neighborhoods, employment and commercial centers, and single and/or zero vehicle households. Metro Bus fixed route service operates seven days per week and includes 15 regular public routes as well serving St. Cloud State University that includes four daytime routes, one shuttle route, three late night routes, and one point deviated evening route. The system includes four transit hubs: a Downtown St. Cloud Transit Center, which is served by many of the regular routes as well as the evening routes; the Crossroads Center Bus Stop, which is served by several regular routes; and a transfer stop at the Miller Learning Resources Center at St. Cloud State University, which is served by all of the SCSU routes; and the latest addition is the Epic Shopping Center in Sartell.

Figure 10-2: Downtown St. Cloud Transit Center

Map 10-1 on the following page illustrates the location of the fixed route network as it operates within the transit service area. In providing future transit services to the growing metropolitan area, Metro Bus will be faced with many challenges, 1) increased demand from high-density neighborhoods; St. Cloud State University; and traditional transit users in the core 2) servicing growth areas, 3) new transit service member areas.

Figure 10-3: Metro Bus new CNG fueling station

Map 10-1: Metro Bus Fixed Route System Map



Recent Investments

On June 16, 2010, New Flyer Industries Inc., the leading manufacturer of heavy-duty transit buses in Canada and the United States, presented St. Cloud Metropolitan Transit Commission (Metro Bus) with its four new transit buses. These buses were built at New Flyer's St. Cloud manufacturing plant which employees more than 600 people from the area. To build on this local partnership as part of a larger project Metro Bus contracted with New Flyer to add 23 additional fixed route CNG buses to the Metro Bus fleet.

Figure 10-4: Metro Bus CNG35' New Flyer Bus

- 2013-2014 St. Cloud Metro Bus CNG project includes the construction of a compressor compound and fueling station, modifications to the maintenance and storage facility and the purchase of 23 new fixed route and 6 paratransit buses.

- St. Cloud Metro Bus is the first public transit agency in Minnesota to operate a bus fleet fueled by compressed natural gas (CNG).

- This project is funded by a $3.35 million U.S. Department of Transportation Clean Fuels grant, a $9.1 million Minnesota Department of Transportation grant and a local revenue bond.

- The CNG project represents the most complex project in the agency's 55-year history. This investment includes $8 million for construction and renovation, and an additional $11.4 million for new investments.

- Metro Bus operates a fleet of 67 buses. This year it replaced 23 fixed route buses with new 35-foot New Flyer Xcelsior CNG buses built in St. Cloud, along with 6 CNG paratransit buses. Additional paratransit and fixed route buses will be added to the CNG fleet as they are replaced.

- Because of the lower cost of CNG compared to diesel, St. Cloud Metro Bus expects to save an average of $300,000 annually over the first 10 years in fueling expenses.

- St. Cloud Metro Bus is located in Central Minnesota and operates seven days a week and provides more than 2.4 million fixed route, commuter bus and dial-a-ride passenger trips annually.

See the Metrobus website for a zoomed in version of the map:
http://www.ridemetrobus.com/userfiles/file/schedules/systemmap4811.pdf

Metro Bus Capital Resources

Metro Bus capital resources include buses, bus stops, shelters, supervisory and maintenance vehicles, and property including the Transit Center and Mobility Training Center in downtown St. Cloud, Metro Bus Operations Center at 665 Franklin Avenue NE, St. Cloud, which houses vehicle storage, maintenance garage and administrative offices. Metro Bus currently owns 60 bus shelters and 13 benches throughout the service area. Over the past few years, Metro Bus has invested nearly $25 million in improvements to its Operations Center maintenance and storage facility constructing a CNG fueling facility and storage and maintenance renovations, for Fixed Route and Dial-a-Ride vehicle replacements, bus stop amenities (including shelters and benches), Intelligent Transportation Systems and Dial-A-Ride communications systems and reconstruction of the Transit Center and Mobility Training Center.

The Metro Bus fleet includes 35 and 40 foot CNG and diesel Fixed Route buses, medium duty diesel Dial-a-Ride vehicles, and a rubber-wheeled Trolley used in revenue service as well as non-revenue vehicles that are used for supervisory personnel and maintenance purposes. The peak requirement for service is 27 Fixed Route vehicles and 22 Dial-a-Ride. The current capital program in the Transportation Improvement Program (TIP) includes the purchase of new vehicles for Dial-A-Ride, a new operations vehicle and maintenance truck, continued funding for improved bus stop amenities, Intelligent Transportation System and Operations Software projects, vehicle storage addition at the Operations Center, and several other projects.

Figure 10-5: Metro Bus Facility

Composition of Metro Bus Revenue Fleet

The current Metro Bus fleet contains 68 vehicles, including 39 dedicated to Fixed Route service, 6 to Northstar Link commuter coach service, and 23 Dial-a-Ride vehicles. The fixed route fleet consists primarily of low floor, 35- and 40-foot CNG and diesel transit buses, with ages ranging from 2003 to 2014. The Dial-a-Ride fleet consists mostly of 25-foot medium duty standard and low-floor vehicles built between 2007 and 2012. All Metro Bus vehicles are wheelchair accessible in accordance with requirements of the Americans with Disabilities Act (ADA).

Figure 10-6: Metro Bus Husky Fried Ride 40' New Flyer Fixed Route bus operates on recycled vegetable oil

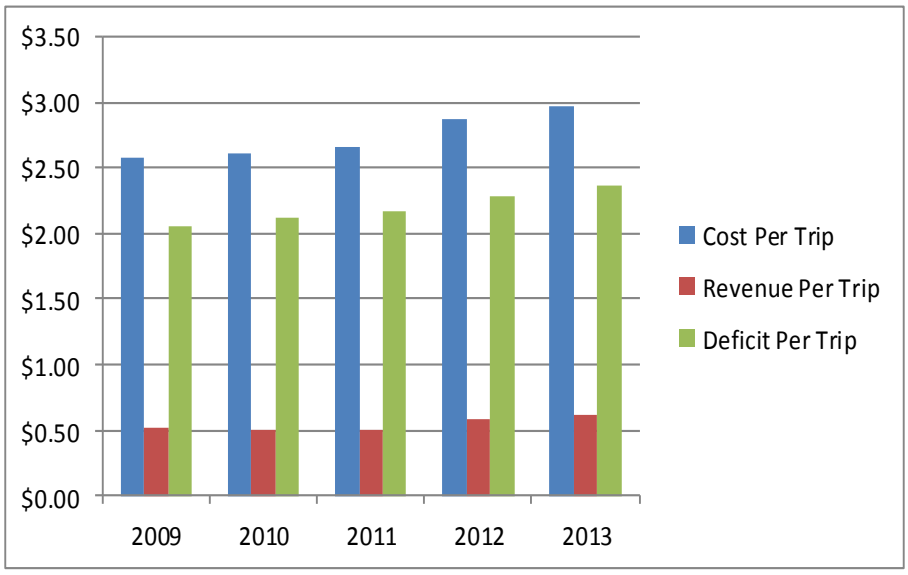
Financial Trends

Recent financial trends indicate that both the cost of service and amount of funding received by Metro Bus over the last five years has been growing. In terms of costs, vehicle operation costs have increased gradually each year since 2009 for a total increase of 11% over five years. Vehicle maintenance costs have been somewhat inconsistent, fluctuating each year. Figure 10-7 shows a summary of the Metro Bus cost and revenue history from 2009 to 2013, while Figure 10-8 compares cost, revenue and deficits per trip.

Figure 10-7: Metro Bus Fixed Route Cost & Revenue History: 2009-2013

Fixed Route	FY2009	FY2010	FY2011	FY2012	FY2013
Total Cost	$5,803,100	$5,985,200	$6,036,900	$6,309,100	$6,544,243
Fare Box/ Contract Revenue	$1,179,500	$1,172,405	$1,185,970	$1,275,075	$1,337,021
Total Passengers	2,247,000	2,282,000	2,262,000	2,195,500	2,197,210
Revenue Hours	80,300	83,800	83,900	84,600	84,785
Revenue Miles	1,130,600	1,244,100	1,179,200	1,189,300	1,195,671
Cost Per Trip	$2.58	$2.62	$2.67	$2.87	$2.98
Revenue Per Trip	$.52	$.50	$.50	$.58	$.61
Deficit per Trip	$2.06	$2.12	$2.17	$2.29	$2.37

Figure 10-8: Metro Bus Trip Costs: 2009-2013



Fixed Route Trends

Figures 10-9 and 10-10 show the trends in the Metro Bus fixed route ridership and service hours in the past five years.

Figure 10-9: Metro Bus Fixed Route Ridership: 2009-2013

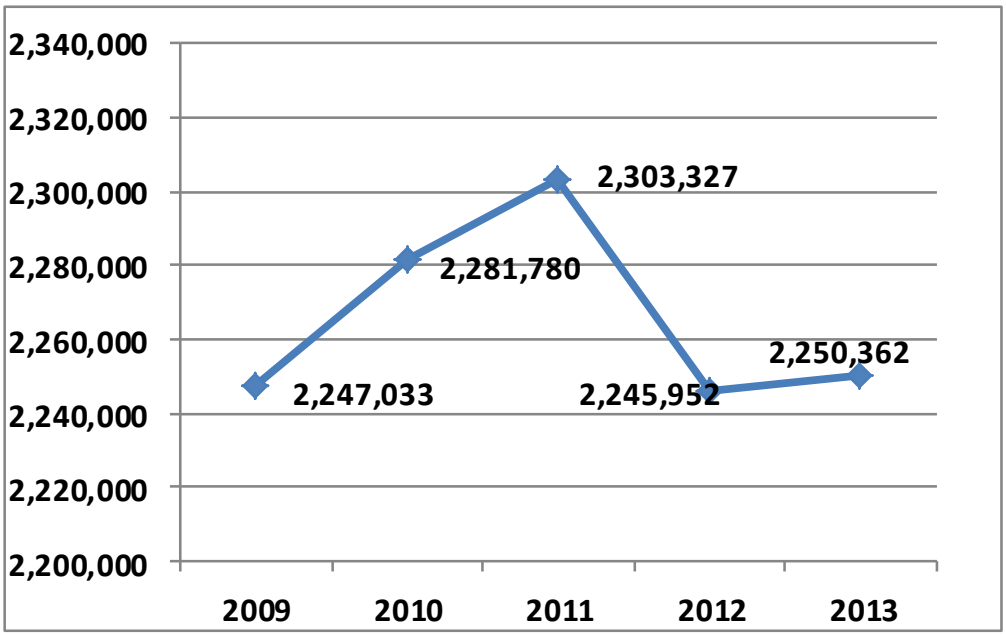
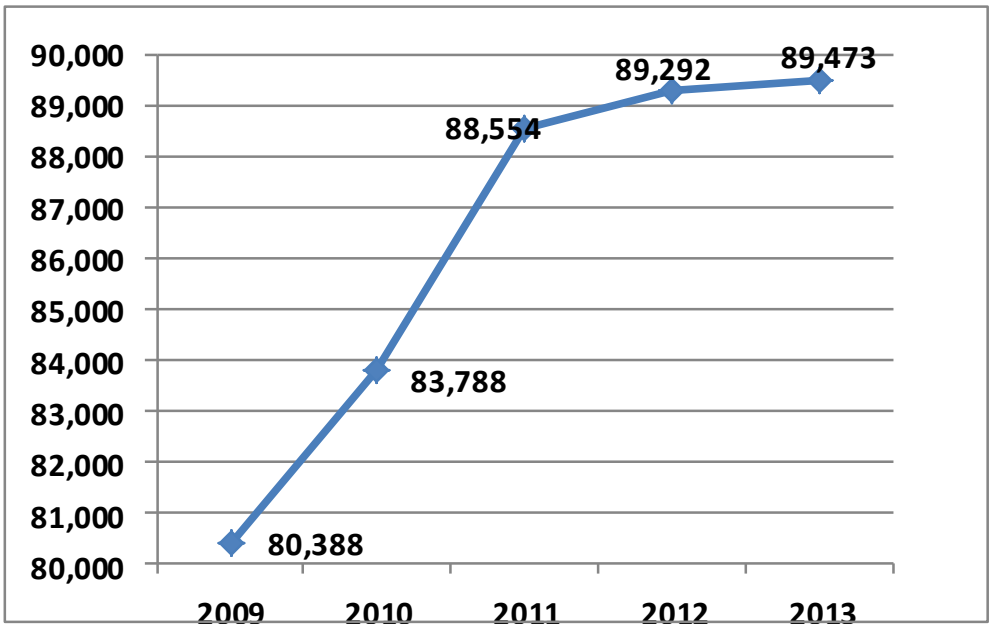


Figure 10-10: Metro Bus Fixed Route Service Hours: 2009-2013



Fixed Route Ridership Projections

This section presents the estimated annual ridership for the 2010 Moving Forward plan. The modified route network presented in the plan will affect ridership on all services that Metro Bus operates. Below are the assumptions used for estimating ridership for each route:

- Ridecheck data was used to distribute ridership from existing routes to the proposed routes.
- Ridership changes were calculated based on applying 35% of the passengers per hour for each route to the difference in revenue hours for each phase1.
- Fare changes are not accounted for in these ridership projections as recent fare changes have demonstrated that fares have very little impact on ridership, and the fact that fare change impacts would have an impact on ridership at the beginning of each phase while ridership figures are presented for the end of each phase.
- Background ridership growth of 3% was assumed based on the recent pattern of ridership changes as presented in Tech Memo 3. This 3% is more conservative than recent history due to an assumption that ridership will continue to grow but not at as rapid of a rate. This background growth accounts for new generators and connections.
- The ridership estimate and projections compare ridership for all of the fixed routes. The ridership estimate is based on annual ridership.
- The annual ridership presented for each phase in Figure 14-11 below assumes the transition phase will be fiscal year 2011, Phase 1 will be fiscal year 2012, Phase 2 is fiscal year 2017, and Phase 3 is fiscal year 2025.

Figure 10-11: Fixed Route Ridership Projections by Route Number and Implementation Phase

Route Number	Current Ridership	Transition Phase	Phase 1	Phase 2	Phase 3
1	235,036	238,145	245,289	284,358	396,728
2	234,135	195,584	201,451	233,537	334,184
3	156,725	162,047	179,602	213,110	301,864
4	80,381	74,607	85,814	100,753	152,557
5	68,403	102,002	130,651	155,970	209,055
6, 7 & 8	153,686	159,398	169,953	259,812	392,860
9	74,846	86,831	91,920	109,980	165,666
10	27,232	103,755	106,868	140,867	185,389
11	257,796	92,660	111,522	132,742	201,207
12	19,191	182,439	222,983	259,757	333,698
21, 22, 23	130,019	134,076	138,098	187,922	264,573
31	27,385	13,484	14,618	16,947	23,610
32	0	30,786	31,710	40,932	53,990
33	89,593	56,766	62,846	75,500	116,339
41	0	0	0	14,824	25,487
51	0	0	0	11,103	14,065
81	58,586	60,344	72,300	83,816	106,175
82	54,632	56,271	58,663	68,007	86,178
83	68,223	70,270	72,378	83,906	106,289
84	39,423	40,606	41,824	48,485	61,420
85	61,118	62,962	0	0	0
91	301,369	310,410	319,722	370,646	469,523
92	45,472	46,836	48,241	55,925	70,844
93	44,932	46,280	47,668	55,261	70,003
94	6,142	6,326	6,516	7,554	9,569
95	9,833	10,128	10,432	12,093	15,319
Total	2,244,158	2,343,002	2,471,071	3,023,805	4,166,590

The following Figure 10-12 illustrates the estimated impacts for Phase 3 of the service plan. For the purposes of showing the order of magnitude subsidy required to operate the Metro Bus fixed route system by Phase 3, an average fare of $0.45 per boarding passenger was assumed, thus meaning that there would be no fare increases by Phase 3. Clearly, this deficit estimate is therefore conservative in that there would likely be some future increase in the average fare by the time Phase 3 is implemented (i.e.,2025).

Figure 10-12: Revenue & Deficit Project by Route Following Phase 3 Implementation

**Routes: #32-West Metro, #41-St. Joseph, #51-St.Augusta would be "new routes". The ex-isting Route # 85-Clipper West would be eliminated in Phase 2, however the area would continue to be served by other routes.*

Route Number	Operating Cost	Revenue	Deficit
1	1,190,070	178,528	1,011,542
2	119,070	150,383	1,039,687
3	1,048,680	135,839	912,841
4	825,660	68,651	757,009
5	848,700	94,075	754,625
6, 7 & 8	1,386,360	176,787	1,209,573
9	776,340	74,550	701,790
10	816,390	83,425	732,965
11	738,000	90,543	647,457
12	902,070	150,164	751,906
21, 22, 23	1,563,750	119,058	1,444,692
31	522,990	10,625	512,366
32	655,110	24,296	630,815
33	898,380	52,353	846,027
41	664,380	11,469	652,911
51	345,600	6,329	339,271
81	142,830	47,779	95,051
82	70,380	38,780	31,600
83	158,940	47,830	111,110
84	71,550	27,639	43,911
91	246,240	211,285	34,995
92	137,340	31,880	105,460
93	147,150	31,501	115,649
94	35,100	4,306	30,794
95	45,810	6,894	38,916
TOTAL	15,427,890	1,874,966	13,552,924

Ridership and financial projections are subject to change and will again be reassessed during the upcoming St. Cloud Metro Bus Long Range Plan in 2015.

Non-vehicle maintenance costs have increased steadily each year, with a total five-year increase of 24%. Additionally, general administrative costs have increased by 34% over five years. Funding has kept up with the cost of running the system. Metro Bus receives funding through a combination of local, state and federal sources, along with directly generated revenues (fare box recovery); directly generated revenues have increased each year, with a total increase of 55% over five years. Local, state, and federal revenue levels have fluctuated over the five-year period: in 2005 state revenues increased, while local and federal revenues declined; federal revenues more than doubled in 2006 while local and state revenues declined; local and state revenues increased in 2007 which offset a decline in federal revenues that year, and in 2008, revenues increased from local, state, and federal sources. Metro Bus is in the process of updating their Expense and Revenue Capital Forecast. This will be incorporated into the Plan when available. In general, projected capital expenses are expected to equal projected capital revenue over the 2040 forecast period.

Anticipated Public Transit Needs

To address the growing and changing transit needs in the region, Metro Bus, in 2010, conducted a study. The following discussion regarding anticipated transit needs is excerpted from the Metro Bus Moving Forward - Performance, Redesign, Market Study and Long Range Plan Update. The Moving Forward Plan will be updated in 2015.

The following medium and long term recommendations were offered in the 2010 plan to enhance the route network by providing additional services in the area. These are based on the goal to meet the needs of the area in the future as the area grows. These medium and long term concepts are vaguely phased in order provide Metro Bus with the ability to meet the area needs without committing to specific services. The following pages detail the medium and long term concepts for system expansion over 3 phases.

Transit Hubs – The route change proposals outlined in *Phase 3* support a system of major transfer points outside of Downtown. These include Crossroads Center Mall, The Miller Learning Resources Center at SCSU, Downtown Sauk Rapids, and Epic Center in Sartell. Investment in these transfer sites should be pursued to improve the customer experience for transferring passengers.

Town circulators – New town circulators, either fixed route or demand response, can be developed to provide service to various neighborhoods in the service area that currently are not served. These town circulators would interface with regular routes to provide service to Downtown St. Cloud and other locations throughout the region.

Additional services to serve new areas – Metro Bus will continue to evaluate service to new activity generators and areas within the region for possible extensions or new services. Some possible new areas to serve would be the St. Cloud Regional Airport, East St. Cloud Industrial Park areas, St. Augusta, St. Joseph and St. John's University, as well as new routes and connections within the current service area. Part of these additional services may be the need to provide commuter express services to outlying areas.

Metro Bus may work in concert with Tri-Cap and River Rider among others to analyzes needs in outlying areas.

Metro Bus Dial-a-Ride (Paratransit) Service

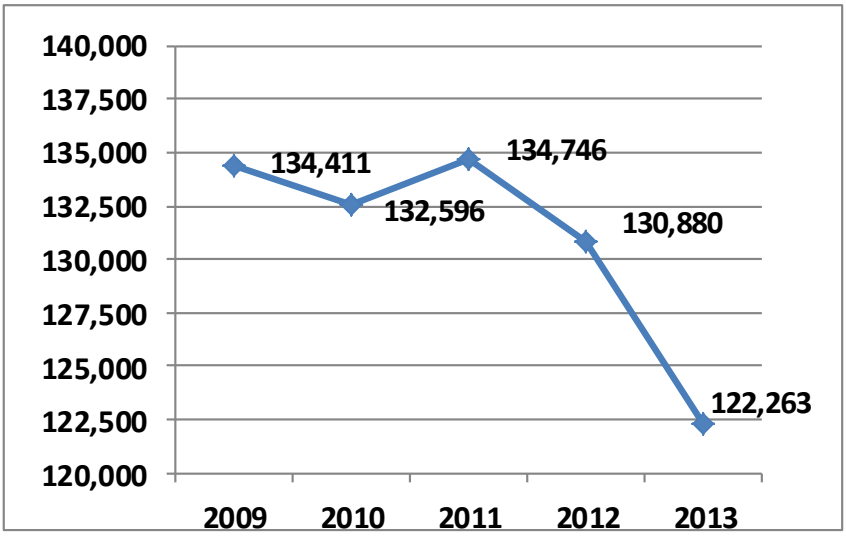
In addition to general public services, Metro Bus directly operates Dial-a-Ride demand responsive complementary paratransit service, as required by the Americans with Disabilities (ADA) Act. Dial-a-Ride service is provided throughout the four-city area utilizing body on chassis medium duty standard and low floor buses. Dial-a-Ride is available throughout the four-city service area Monday through Friday from 5:30 AM to 10:00 PM, Saturdays from 8:00 AM to 6:30 PM, and Sundays from 9:00 AM to 6:00 PM.

Figure 10-13: Dial-a-ride 5301 Bus

Dial-a-Ride (Paratransit) Trends

Figures 10-14 and 10-15 show the Metro Bus Dial-A-Ride (DAR) ridership and service hours in the past five years. The ridership was lower in 2013 due to elimination of general public Dial-a-ride service. More riders were encouraged to ride fixed routes. A service hour decrease was due to budget tightening. A decline in service hours shows a direct impact on ridership. Further analysis will be including in the upcoming Metro Bus Long Range Plan.

Figure 10-14: Metro Bus Dial-A-Ride Passengers: 2009-2013



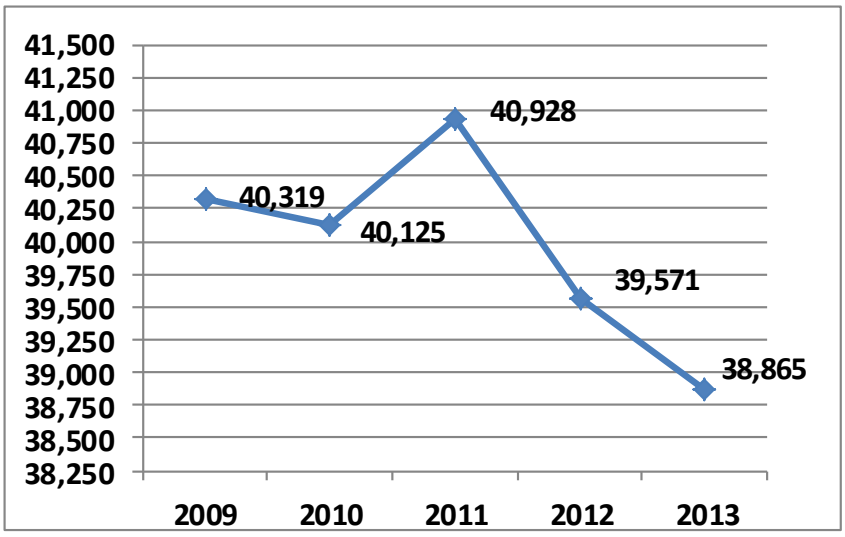


Figure 10-15: Metro Bus Dial-A-Ride Service Hours: 2009-2013

10.4 Rural Bus Systems

Tri-CAP rural transit system operates within the APO Planning Area. Tri-CAP is exclusively funded and programmed through MnDOT's Region 7W and District 3 ATP. Although Tri-CAP does not receive funding through the APO, they do provide an invaluable service and function for transit users within the St. Cloud Metropolitan Area. Tri-CAP serves residents in the greater St. Cloud region in the non-urban areas west, north and north-east of St. Cloud. As of July 1st, 2014 Tri-CAP also operated in the south-east, covering Sherburne County. As mentioned earlier in the chapter River Rider was the other primary rural provider that offered trips in the area but dissolved as of July 1st, 2014. Some of its services have been replaced by Trail Blazer in Wright county. As Wright County is outside of the APO Planning boundary we will not update Trail Blazer ridership and financial info.

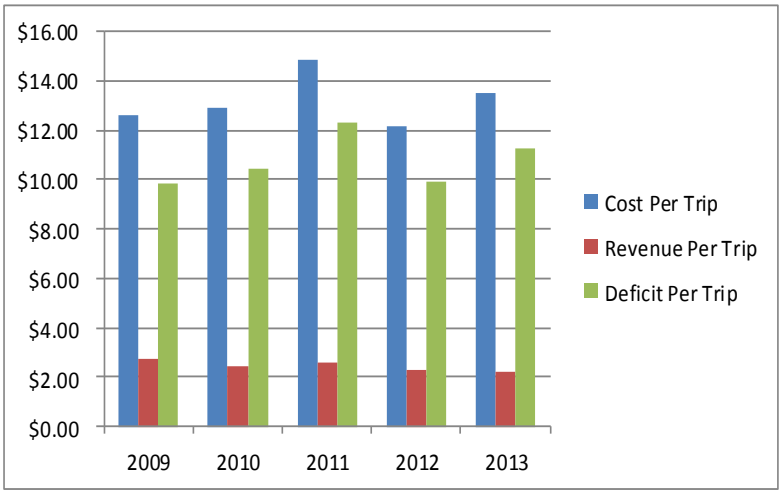
Tri-County Action Program, Inc., (Tri-CAP) has been operating rural transit services since 1975 when a needs assessment found that transportation was a significant unmet need in Central Minnesota. Beginning as a service for elderly and disabled under the Older Americans Act, the transit program evolved into general public service during the early 1980's. As a general public provider, Tri-CAP began with a very small fleet serving Benton and Stearns Counties. Over time, the program evolved into the Tri-CAP Transit Connection in Benton and Stearns County and MorrTrans in Morrison County. Rural Transit productivity averages about 3.77 passengers per hour. All of Tri-CAP busing works in cooperation with the St. Cloud Metro Bus program and is operated for residents outside of the Metro Bus service area.

Tri-CAP provides rural area bus service to the region surrounding the City of St. Cloud. This includes Dial-A-Ride service, which operates from 7:00 AM to 4:30 PM Monday through Friday, available within a 15 mile radius of the Tri-Cap offices in Waite Park. Additional Dial-A-Ride services are available in Stearns County within Melrose (Monday through Friday, 7:30 AM to 4:00 PM, including service to Sauk Centre), and within Sauk Centre (Monday through Friday, 7:00 AM to 4:45 PM). Tri-CAP also provides deviated route service in Stearns and Benton Counties, connecting Sauk Centre, Foley, and intermediate communities to St. Cloud. Detailed information regarding the Tri-CAP schedule can be found on their website at: http://www.tricap.org/bus_services.html.

Tri-CAP fares are $1.25 for a one-way trip within one city, or $3.00 for a one-way trip for rural/intercity trips.

	2009	2010	2011	2012	2013
Total Cost	$998,760	$1,022,366	$1,002,865	$954,645	$1,041,792
Fare Box & Contract Revenue	$218,506	$193,362	$172,446	$178,846	$173,588
Passengers	78,781	79,763	74,597	79,474	78,079
Revenue Hours	19,180	20,191	18,508	17,939	18,248
Revenue Miles	297,708	291,498	269,889	267,132	248,213
Cost Per Trip	$12.64	$12.89	$14.85	$12.20	$13.54
Revenue Per Trip	$2.77	$2.45	$2.56	$2.30	$2.25
Deficit Per Trip	$9.87	$10.44	$12.29	$9.90	$11.29

Figure 10-16: Tri-CAP Operations



Tri-CAP does not provide bus service on New Year's Day, Memorial Day, Independence Day, Labor Day, President's Day, Martin Luther King Jr. Day, Thanksgiving Thursday and Friday, Christmas Eve and Christmas Day, and offers limited service on Good Friday.

Figures 10-17 through 10-19 illustrate trip costs, ridership and service hours.

Figure 10-17: Tri-CAP Trip Costs: 2009-2013

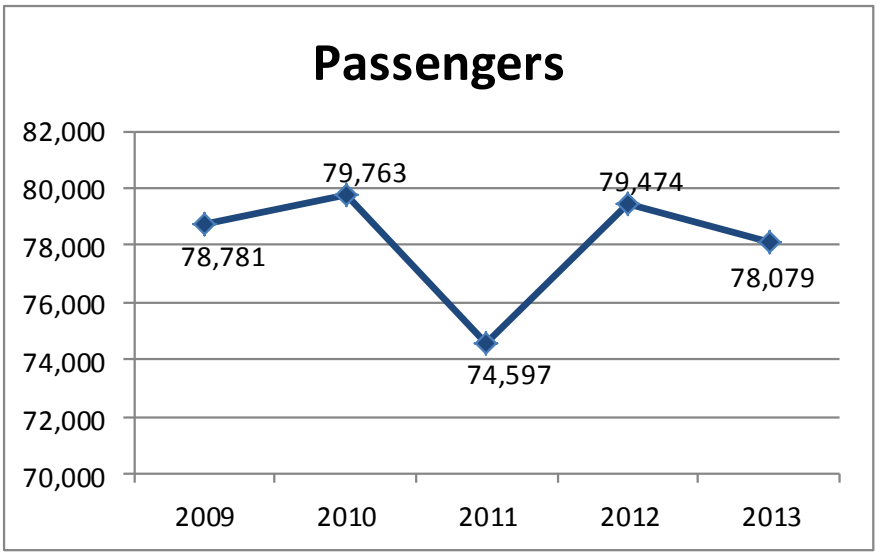


Figure 10-18: Tri-CAP Ridership: 2009-2013

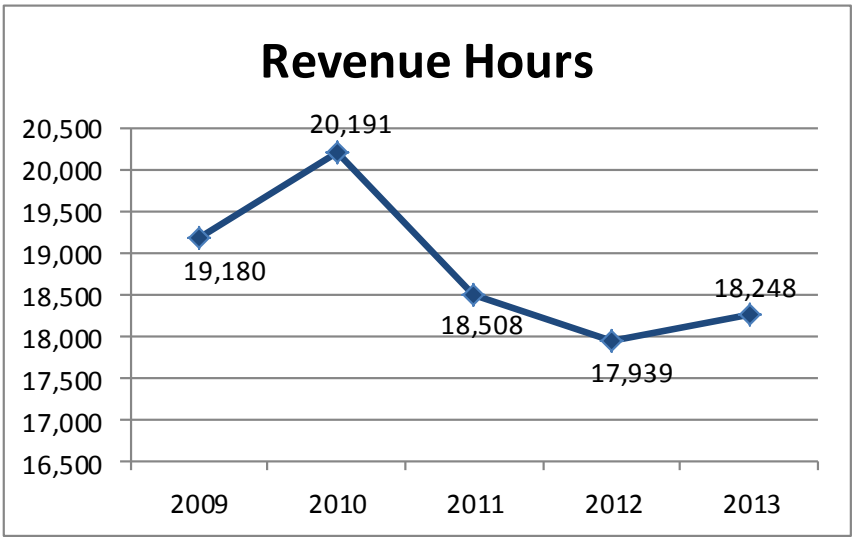


Figure 10-19: Tri-CAP Service Hours: 2009-2013

Tri-CAP Financial Trends

Tri-CAP revenue is generated indirectly through a combination of local, state and federal resources along with directly generated revenue from fares and contract agreements. Operating and capital expenses are programmed on an annual basis, with the graphs and tables below illustrating the forecasted revenue based on recent programming history and the share of funding by resource. Through the forecasted revenue Tri-CAP projects their 5-year operations and capital expenditures featured in Figure 10-23 at the bottom of this page.

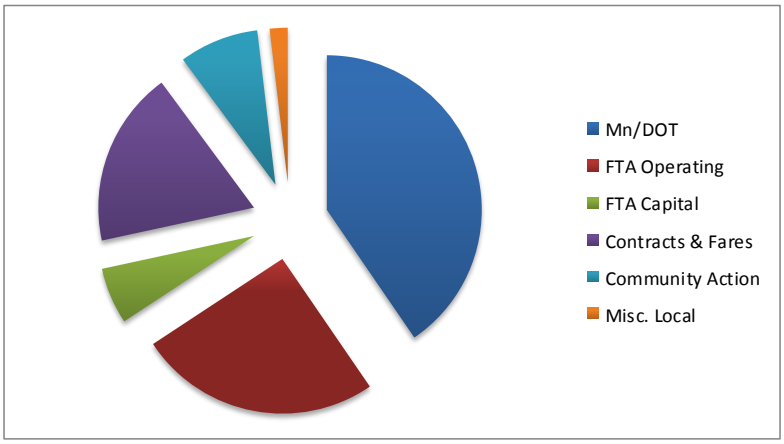


Figure 10-20: Tri-CAP 5-Year Revenue by Source

Figure 10-21: Tri-CAP Revenue Sources

REVENUE SOURCES	2009	2010	2011	2012	2013
Mn/DOT	$480,670	$499,897	$519,893	$540,688	$562,316
Federal Operating	$300,480	$312,499	$324,999	$337,999	$351,519
Federal Capital	$49,264	$0	$54,400	$112,000	$162,400
Contracts & Fares	$216,959	$225,637	$234,663	$244,049	$255,000
Community Action	$106,956	$100,000	$104,000	$108,000	$112,000
Miscellaneous Local	$12,967	$11,912	$25,987	$33,013	$36,865
Total Revenues	$1,167,296	$1,149,945	$1,263,942	$1,375,750	$1,480,100

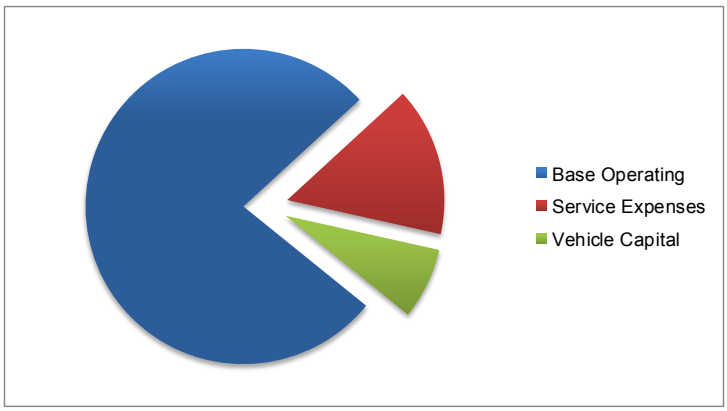


Figure 10-22: Tri-CAP 5-Year Operating & Capital Expenditures

Figure 10-23: Tri-CAP Operating & Capital Expenditures

CAPITAL & OPERATING	2009	2010	2011	2012	2013
Base Operating	$919,000	$955,760	$993,990	$1,033,750	$1,075,100
Service Expenses	$186,716	$194,185	$201,952	$202,000	$202,000
Vehicle Capital	$61,580	$0	$68,000	$140,000	$203,000
Total Operations	$1,167,296	$1,149,945	$1,263,942	$1,375,750	$1,480,100

10.5 Additional Bus Transportation Services

Northstar Link Commuter Coach

The Northstar Link bus is operated by St. Cloud Metro Bus under contract with the Northstar Corridor Development Authority (NCDA). The primary service hub is located at a park and ride lot at Highway 10 and Lincoln Avenue SE in East St Cloud with secondary St. Cloud connections made at the Metro Bus Transit Center Downtown and St. Cloud State University. Additional stops are made in Becker at a Municipal park and ride lot bordering Willow Street and Highway 10. Reverse commute service is available on all bus trips from Big Lake. However, there is only one reverse commute train connection from Minneapolis. Planning for the Northstar Link connection was a part of the St. Cloud Metro Bus route planning process, since the Northstar Link Park and Ride facility will eventually serve as part of the main St. Cloud commuter rail station.

Starting in the summer of 2014 Northstar Link will provide regular connections to the SCSU campus on all trips to and from Big Lake. Any additional bus service to the Northstar Park and Ride lot to Downtown would be part of either the East Side route (Routes 6 and 7) or the Southeast route (Route 9).

Figure 10-24: Northstar Link Fare Structure 2012-2013

Northstar Link Fare Report FY 2013

Current Fare Structure

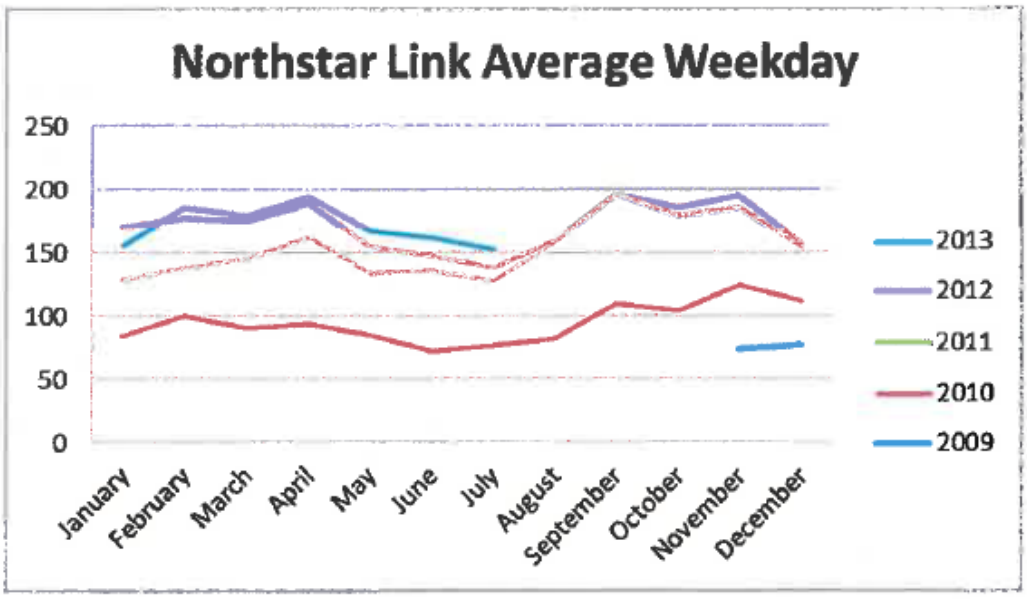
Ridership by fare category	12-Oct	Nov	Dec	13-Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep Est.	Total	Amount	Total
Cash Full Price	761	715	754	810	645	831	862	785	705	717	843	766	9194	$3.25	$29,881
Cash Reverse / Weekend / Twins / Vikings / Special Event	1786	1582	1510	1173	1409	1449	1726	1313	1303	1211	1690	1468	17620	$1.75	$30,836
10 Ride Pass	75	46	56	96	71	71	88	71	58	77	78	72	859	$27.00	$23,181
10 Ride Reverse/Weekend Pass	31	23	16	47	43	17	43	24	18	22	57	31	372	$16.00	$5,952
31 Day Pass	6	4	2	2	1	4	5	3	5	6	10	4	52	$95.00	$4,975
Subtotal															$94,824
Unchanged															
Becker Fare	560	406	368	401	449	375	430	394	323	342	401	404	4853	$1.25	$6,067
Friday Midday Fare	68	86	79	60	72	102	81	87	75	51	91	77	929	$5.50	$5,112
Friday Midday Station to Station	29	30	21	19	16	28	21	24	24	24	22	23	281	$3.25	$915
Subtotal															$12,094
Totals	3316	2892	2806	2608	2706	2877	3256	2701	2511	2450	3192	2847	34162		$106,918

Proposed Equalized Fare Structure

Ridership by fare category	12-Oct	Nov	Dec	13-Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep Est.	Total	Amount	Total
Cash Full Price	761	715	754	810	645	831	862	785	705	717	843	766	9194	$2.25	$20,687
Cash Reverse / Weekend / Twins / Vikings / Special Event	1786	1582	1510	1173	1409	1449	1726	1313	1303	1211	1690	1468	17620	$2.25	$39,646
10 Ride Pass	75	46	56	96	71	71	88	71	58	77	78	72	859	$20.00	$17,171
10 Ride Reverse/Weekend Pass	31	23	16	47	43	17	43	24	18	22	57	31	372	$20.00	$7,440
31 Day Pass	6	4	2	2	1	4	5	3	5	6	10	4	52	$70.00	$3,665
Subtotal															$88,609
Unchanged															
Becker Fare	560	406	368	401	449	375	430	394	323	342	401	404	4853	$1.25	$6,067
Friday Midday Fare	68	86	79	60	72	102	81	87	75	51	91	77	929	$5.50	$5,112
Friday Midday Station to Station	29	30	21	19	16	28	21	24	24	24	22	23	281	$3.25	$915
Subtotal															$12,094
Totals	3316	2892	2806	2608	2706	2877	3256	2701	2511	2450	3192	2847	34162		$100,709

Streamlines Link fares for integration with Metro Transit rail fare system
Eliminates confusion/confrontation with special event (Twins/Vikings) riders mingling with regular fare riders
Fares include regular and special event fares (i.e. Twins, Vikings)
Eliminate round trip fare purchase option at the farebox - directional only

Figure 10-25: Northstar Link Monthly Weekday Ridership (2009-2013)



Intercity Bus Travel

Jefferson Lines provides intercity bus travel throughout the Upper Midwest. Service to and from the St. Cloud area is available via a fixed route interconnected market between St. Cloud, Bemidji, Fargo, Grand Forks, and Winnipeg. Jefferson Lines connects with Greyhound in Minneapolis/St. Paul to provide connecting bus service throughout the country. In St. Cloud, Jefferson Lines uses the Metro Bus Transit Center as its bus station. Not only does cooperative use of the Metro Bus Transit Center allow Metro Bus to feed passengers to Jefferson Lines buses, but it provides one central facility for trip arrivals, departures, and connections within the Area. The Transit Center also serves as an amenity to Jefferson Lines passengers by providing a comfortable waiting area and direct ticket sales for Jefferson Lines service.

10.6 Rail Transportation

Providing transportation opportunities via our nation's rail system has been gaining popularity in recent years, particularly through support from the Obama Administration for expanding high-speed passenger rail service throughout the United States. Minnesota is a member of the multi-state Midwest Regional Rail Initiative and is actively pursuing rail funding as a member of that coalition.

Intercity Passenger Rail

Amtrak provides intercity passenger rail services once daily from St. Cloud; passengers can ride via the Empire Builder route from St. Cloud west to Seattle/Portland or south to Chicago via the Twin Cities. While Amtrak is anticipated to continue operation of the existing Empire Builder intercity passenger rail service, funding was recently allocated for further development of a new high-speed passenger rail line between Chicago and Madison-Milwaukee. The State of Minnesota is pursuing an extension of that high-speed rail line to the Twin Cities, which would further expand the horizon for passenger rail opportunities throughout Minnesota; ideally with future connections from the Twin Cities to St. Cloud,

continuing to the Fargo-Moorhead region. While funding for the extension of a high-speed intercity passenger rail line to the St. Cloud Area is not within the scope of the APO's plan at this time, the APO will continue to remain an active participant in efforts to explore the feasibility of extending this mode of transportation to the St. Cloud region. Increasing demand of the BNSF Freight line has resulted in severe bottlenecks between the Twin Cities and the St. Cloud region. This has in part caused significant delays to passenger rail service of Amtrak's Empire Builder service between Chicago/Twin Cities and Seattle/Portland. Delays have resulted in the Empire Builder having the lowest on-time performance in 2013-2014 of all of the Amtrak routes nationwide. These are growing concerns that require direct attention at the local, state and federal levels. Source: http://www.amtrak.com/

Northstar Commuter Rail

The Northstar Corridor Development Authority (NCDA), a joint powers board consisting of 30 counties, cities, townships and regional rail authorities, was established in 1997 for the purpose of planning for multimodal transportation improvements in the Northstar Corridor and for promotion and facilitation of related land use and development.

The entire Northstar Corridor Commuter Rail project is an 82-mile transportation corridor that parallels Trunk Highway 10, which serves as one of the primary highway links between the Minneapolis - St. Paul and St. Cloud metropolitan areas. NCDA originally intended to build the rail project in its entirety; however, in 2000, due to several factors, the original proposal was truncated into two phases, Phase I was identified as Minneapolis to Big Lake and the portion extending north of Big Lake was identified as Phase II.

Figure 10-26: Northstar Train

Construction of Phase I of Northstar began in 2007 and the line opened in November 2009. The commuter rail schedule offers five morning departures from Big Lake with station stops in Elk River, Ramsey, Anoka, Coon Rapids, and Fridley, as well as one morning reverse commute from Minneapolis to Big Lake. In addition, Northstar provides a connection to the Blue Line (Hiawatha) and Green Line (Central Corridor) light rail transit (LRT) lines in Downtown Minneapolis. Hiawatha provides direct connections to the Veterans Hospital, Minneapolis-St. Paul International Airport, and the Mall of America. The Green Line, completed in June 2014 connects Downtown Minneapolis, The University of Minnesota, and Downtown St. Paul, providing many more popular destinations to Northstar. The Northstar afternoon schedule includes five departures from Minneapolis and one reverse commute from Big Lake. The trains are stored and maintained at the vehicle maintenance facility in Big Lake.

Northstar Current Activity

Northstar Commuter Rail currently serves seven stations on 40 miles of existing track between Big Lake and Minneapolis. Service began in November 2009. Metro Transit is the operator. Limited operating hours serve primarily commuters during weekday rush hours. In Minneapolis, commuters can easily transfer to light rail, buses, bike trails, and close by skyways. The new Target Field Station, which opened in 2014, offers about 450 weekday light-rail trips and approximately 2,000 bus connections daily. The original vision of the Northstar Corridor Development Authority includes 25 additional miles of Northstar service to St. Cloud, now called Phase 2. Even more recently, increasing demand of the BNSF Freight line and major construction projects on the railway have resulted in severe bottlenecks between the Twin Cities and the St. Cloud region as they have a shared track. This has in part caused significant delays to Northstar service causing a temporary decline in ridership. Northstar, Amtrak, and BNSF are currently working on enhancements and schedule changes to achieve mutual benefits, but ultimately an additional track in the corridor may be necessary.

Project Updates

- In its 1st three-four years of service, the Northstar Line has operated on time, within budget, and with a stellar safety record.
- 2012 service changes included lowering fares in August and opening a new Ramsey station in November. 2013 saw the addition of Wi-Fi.
- In the first eight months of 2013, ridership grew 16.3% over the same period last year. August had the highest monthly total since opening- representing a 24.3% increase over August 2012.
- Station cities report increased transit-oriented-development activity. For example. Big Lake has added more than 130 housing units (some under construction), a financial institution and a retail center-all within 1 to 3 miles of the platform
- Rail is at the heart of The COR and surrounding area in Ramsey. Plans anticipate 3,900 new jobs, $3.5 million annually in local tax revenues, and 2,400 housing units (600built or under construction). The city's experience shows bankers favor investments near fixed transit corridors.
- Elk River, Fridley, Anoka, and Coon Rapids-each with completed or proposed developments-are making good use of data provided by the Corridors of Opportunities transit-oriented Development study completed in 2013.
- Interest remains strong to extend the line to St. Cloud, add more service to the schedule, and connect to other corridors in a broader transit system.

The following pages contain figures summarizing financial and ridership trends from Northstar.

Map 10-2: Northstar Commuter Rail Line: Phase I

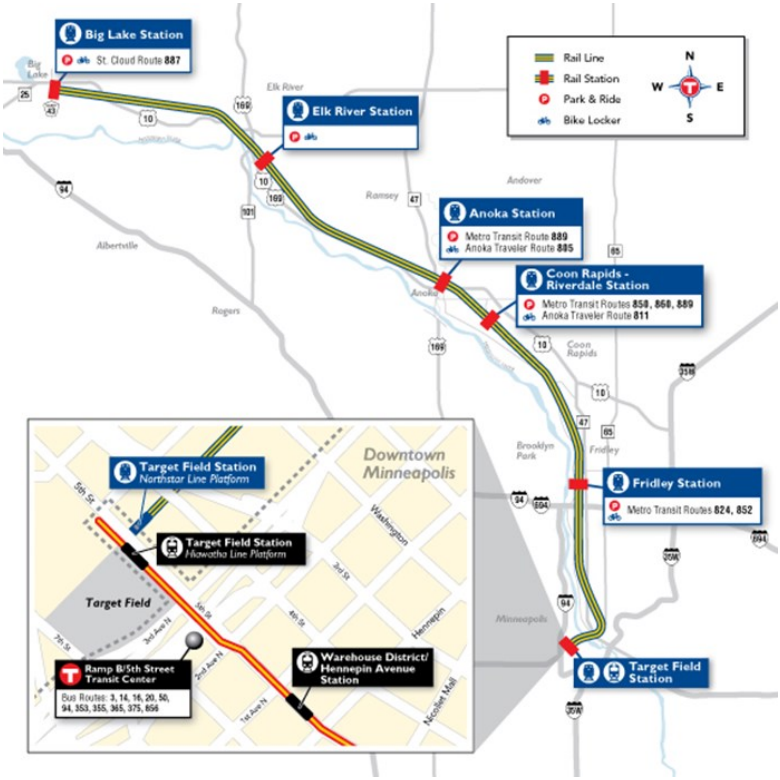


Figure 10-27: Breakdown of Funding for Design and Construction of Northstar Phase I by Agency

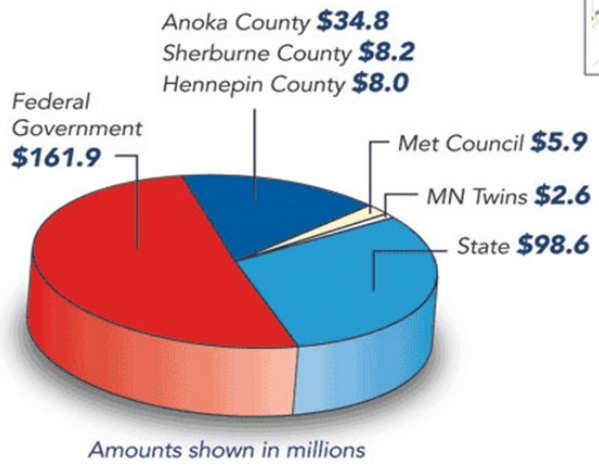


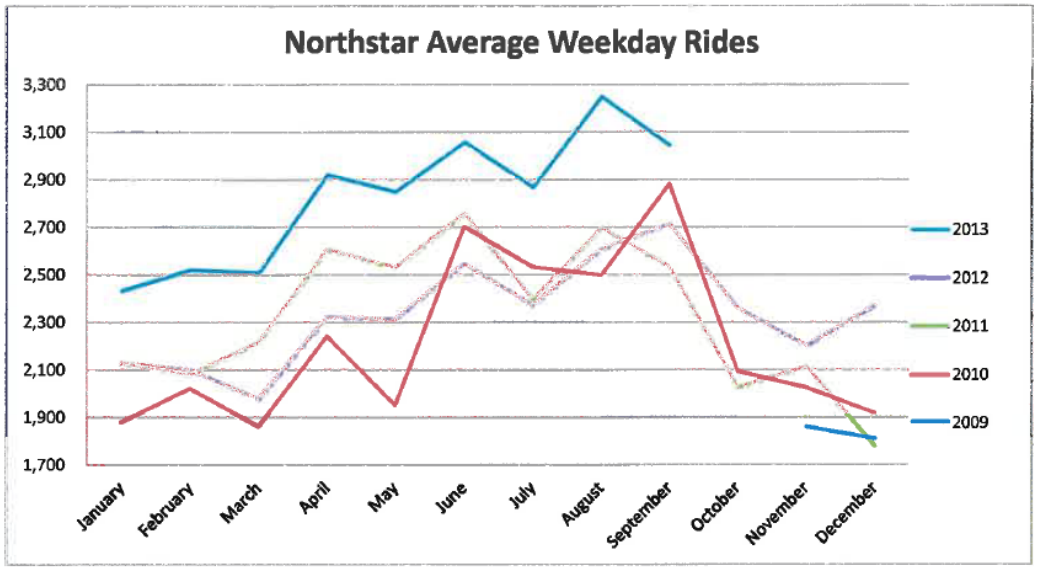
Figure 10-28: Breakdown of Northstar Phase I Revenue and Expenses (2013-2014)

	2013 Budget	2014 Budget
REVENUE		
Passenger Fares	$2,610,436	$2,449,081
CTIB	$7,871,880	$6,557,567
Sherburne County	$1,208,460	$1,258,365
MVST	$3,851,000	$5,875,000
Use of Fund Balance	$1,015,029	$682,567
Greater MN	$1,208,460	$1,258,365
Other	$245,024	$100,000
Total Revenue	**$18,010,289**	**$18,180,954**
Total Expenses	**$18,010,289**	**$18,180,954**
Net Income	-	-
Ridership	720,000	742,146

Figure 10-29: Breakdown of Northstar Phase I Ridership and Finances (2012-2013)

	2012 Actual	2013 Preliminary	2012 Vs 2013
Ridership	700,276	787,239	12.42%
Farebox Recovery	15.63%	17.11%	9.5%
Cost per Passenger	$23.45	$19.25	-17.9%
Subsidy per Passenger	$19.78	$15.96	-19.3%
Average Fare per Passenger	$3.67	$3.29	-10.4%
Subsidy per Passenger Mile	$0.78	$0.63	-19.2%
Cost per Passenger Mile	$0.92	$0.76	-17.4%

Figure 10-30: Northstar Average Weekday Ridership Trends (2009-2013)



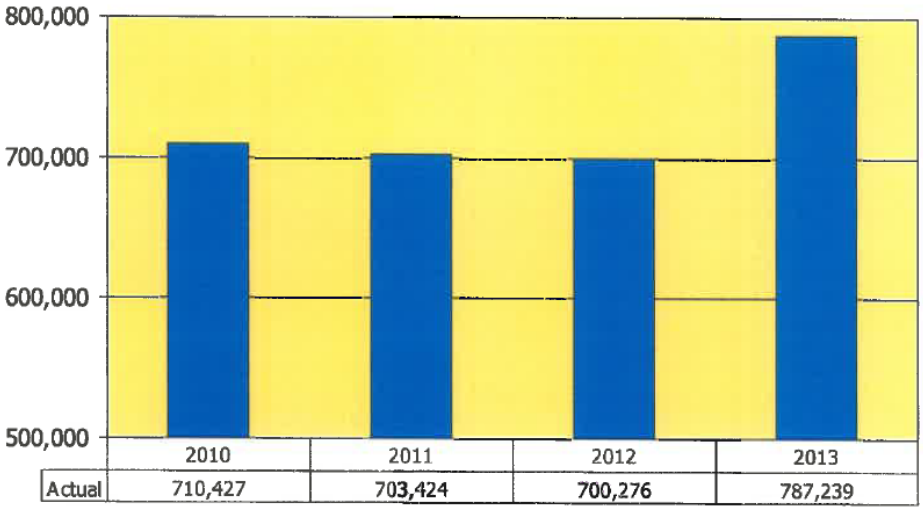


Figure 10-31: Northstar Annual Ridership (2010-2013)

Figure 10-32:Month-to-Date Northstar Daily Ridership by Station (December, 2013)

MTD Northstar Rides by Station through 12/31/2013

Station	Rides	Rides				Average Daily Rides			
		Weekday	Sat	Sun/Hol if run	Total	Weekday	Sat	Sun/Hol if run	Total
Big Lake	8,421	6,761	798	862	8,421	322	160	172	272
Elk River	7,563	6,774	427	362	7,563	323	85	72	244
Ramsey	3,642	3,385	178	79	3,642	161	36	16	117
Anoka	4,434	3,979	187	268	4,434	189	37	54	143
Coon Rapids	5,759	5,193	275	291	5,759	247	55	58	186
Fridley	1,705	1,321	158	226	1,705	63	32	45	55
Mpls to Fridley	1,022	684	131	207	1,022	33	26	41	33
Mpls to Coon Rapids	5,276	4,741	254	281	5,276	226	51	56	170
Mpls to Anoka	4,311	3,877	181	253	4,311	185	36	51	139
Mpls to Ramsey	3,347	3,102	168	76	3,347	148	34	15	108
Mpls to Elk River	6,821	6,054	419	349	6,821	288	84	70	220
Mpls to Big Lake	6,769	5,217	716	835	6,769	248	143	167	218
	59,070	51,088	3,893	4,089	59,070	2,433	779	818	1,905

Northstar Commuter Rail (Phase II)

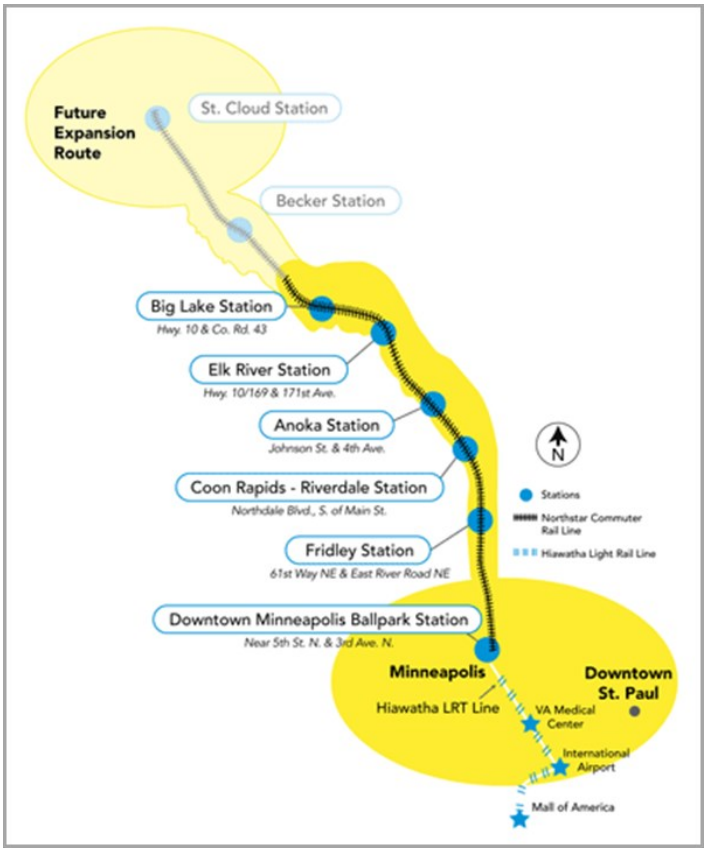
The NCDA and its project partners are committed to completing Phase II of Northstar Commuter Rail. Ongoing planning and development efforts are underway to complete Phase II, extending service from Big Lake to St. Cloud. Funding needs for the extension of Northstar Commuter Rail are estimated at $150 Million, and federal and local funding sources are being explored. The expansion of Northstar to St. Cloud is a critical transportation priority for the St. Cloud Metropolitan Area.

The St. Cloud to Twin Cities growth corridor has experienced tremendous growth over the last twenty years. This growth is expected to continue into the foreseeable future, placing considerable strain on TH 10 and Interstate 94. The extension of Northstar from Big Lake to St. Cloud will significantly enhance mobility in this growth corridor by providing regularly scheduled convenient transportation service linking these two companion metropolitan areas. Providing this improved access between the two metropolitan areas will enhance opportunities for employment and new economic development. To that end, reverse commute service from the St. Cloud area to Minneapolis is a priority for the Northstar Phase II project.

The Northstar Corridor – St. Cloud extension will connect major attractions and facilities of the St. Cloud and Twin Cities metropolitan areas. The seven colleges and universities of the St. Cloud area would be conveniently linked to the more than twenty colleges and universities of the Minneapolis-St. Paul metropolitan area. In addition to educational links, medical campuses will be linked, including veterans' hospitals, in each metropolitan area. Convenient connections to existing transit modes are part of the implementation plan for the Northstar Corridor - St. Cloud project. The commuter rail line will provide connections between the St. Cloud area Metro Bus system and the Twin Cities Metro Transit system, which includes bus routes and the Hiawatha LRT.

Other Transit Services

In addition to the publicly supported agencies within the St. Cloud region, there are numerous private non-profit carriers and a thriving for-hire transit service industry in the St. Cloud Area.



Map 10-3: Northstar Phase II Route Expansion

11.1 Chapter Introduction

This chapter discusses the general freight process and importance of strong infrastructure for mobility of freight and modal choice characteristics when it comes to preferred methods of moving goods. Modal characteristics such as cost, trip lengths and trip barriers play an important role in determining freight movement in Minnesota. Intermodalism is also discussed for how linking air, rail, truck and water play a critical role in the movement of freight. Below is a brief description of how Plan policies and MAP-21 planning factors are being addressed in this chapter through current activities and how in the future the APO will continue to be vigilant toward policies and planning factors.

A freight survey was developed and distributed in 2011 to reach out to freight stakeholders to help determine needs in the area along with participation in the Central Minnesota Freight Plan. APO staff helped contribute towards MnDOT's 2012 Central Minnesota Regional Freight Plan to identify and prioritize projects to improve the efficiency of freight transportation in the region including highway access, grade separation improvements, and development of intermodal facilities. Results from the study identified specific land use and safety issues, and potential conflict areas with other modes of transportation.

The funding approach approved for this Plan incorporates more funding for system preservation and operational and safety improvements, which will help maximize investments and improvements for the movement of freight. Every year APO staff puts together a Transportation System Management (TSM) report that analyzes intersections based on crash history, functional class and level of service. Results are presented to local jurisdictions to monitor and determine solutions for problematic intersections, including truck crash locations. Operational improvements that reduce congestion and improve the movement of freight will create a more efficient and balanced transportation system. APO staff is working to improve access and mobility for freight stakeholders by recommending that APO access management guidelines are followed when existing roads and bridges are reconstructed or new ones are built. These activities along with future action items help to make the entire transportation system more safe and secure. In the future, APO staff will assess and incorporate "Freight Transportation" action items, listed in Chapter 16: Implementation, as appropriate into the Unified Planning Work Program (UPWP) to continue to work toward addressing Plan policies and focus on MAP-21 planning factors.

11.2 Freight Background

Freight is defined as the transportation of commodities/cargo, raw or finished. It is an important player in the vitality of the local economy. In its most simplistic form, raw materials are moved to local manufacturers. These manufactures in turn produce goods. The goods are then distributed locally, nationally, and/or internationally to various businesses. Businesses consume, resell, or reuse the goods. Along each link in the supply chain, the form of the good may be altered. For example, raw lumber is used to make 2x8s, which are sold at a local retail outlet to a construction company. This company then uses the 2x8s to create floor joists in constructing a house. A resident that works for a local trucking company then purchases the house. This also illustrates how the freight industry is the

foremost champion of employment, not only for shippers and haulers, but also within businesses that sell and/or consume products. Freight movement can be measured in either value of the good being moved or total weight (generally tons) of the product. It is important to have a strong infrastructure, such as roadways, railroads, intermodal facilities, etc. to support freight movement. Investments in transportation infrastructure can lead to better or cheaper freight services, which in turn lead to increased productivity. Highway infrastructure improvements, which may include expansion or improvement of existing roads, or the strategic implementation of Intelligent Transportation Systems as part of an integrated Management and Operations approach, as the network expands, there become more access points, making point-to-point trips less circuitous and thereby reducing distances (measured in vehicle miles traveled, VMT). The addition of new roads and capacity expansions on existing roads may decrease congestion and ultimately travel times (measured in vehicle hours traveled, VHT). Accordingly, investing in a comprehensive transportation infrastructure improves the productivity of the freight hauling industry, businesses and transit. A well-defined transportation network must exist to provide a sufficient amount of roadways for the efficient movement of goods.

Figure 11-1: Freight Restrictions

Sign Prohibiting Trucks or Showing Truck Route During Closures

11.3 Freight Movement in Minnesota

The St. Cloud metro and central Minnesota play an important role in facilitating the movement of freight and goods throughout the state. Central Minnesota has the largest population base in greater Minnesota and has the highest projected growth rate percentage in population and vehicle miles traveled. Immediate and growing concerns to address freight transportation in the St. Cloud Metro area are discussed in this chapter.

The ability of freight to move to and from the St. Cloud Metro Area is an important factor in the effectiveness of supply reaching the demand of our residents and businesses. Annually, 636 million tons of freight, 4 percent of the U.S. total, moves into, out of, intrastate, or through Minnesota. This freight is valued at approximately $562 billion, or 6 percent of the U.S. Gross National Product. By 2020, the weight of freight shipped in, out, within and through Minnesota is expected to reach 1,019 billion tons, an increase of 60 percent over 2001. This will significantly increase freight transportation demand on the State's infrastructure. The value of Minnesota's freight flows is forecast to increase from $562 billion to $1.171 trillion between 2001 and 2020, more than doubling the current value of shipments. The growth rate in value is significantly higher than the growth rate for tons. This indicates that by 2020 the shipment of high-value goods will increase relative to 2001, while the shipment of low-value goods will decrease. However, the distribution of value between each of the trip types will remain largely unchanged. Previously the freight shipped through Minnesota has been split almost equally between rail and truck, but over the last several years rail has begun to accelerate at an even more rapid pace than truck freight due primarily to oil shipments.

Nearly 22 percent of the freight tonnage and 28 percent of the value moving on the transportation system in Minnesota has neither an origin nor destination in the State, but rather, serves the national economy. The vast majority of the freight traveling through Minnesota is generated by the Midwest, Plains and Mountain states, which are also major trading partners for Minnesota. In addition, Minnesota serves as a major gateway for freight shipped to and from Canada. The commodities moving through Minnesota are primarily bulk freight such as farm and food products, coal, chemicals and lumber and now more recently an influx in oil and gas. By 2030, the weight of freight moving into, out of and within Central Minnesota is projected to grow by 41 percent to over 43 million tons. A significant portion of this increase is expected to come from originating freight shipments, although terminating and local freight shipments are also expected to experience increased weights. The value of freight moving into, out of and within the region is projected to grow by 92 percent to approximately $31 billion by 2030, resulting mainly from originating shipments. The significant percentage difference between outbound tonnage and outbound value (regional exports) suggest that commodity exports from the region are generally higher value, low weight goods such as Electrical Equipment, Instruments and Transportation Equipment. In contrast, inbound commodities tend to be of lower value, higher weight commodities such as Coal and Non-metallic Minerals.

11.4 Intermodalism

The primary modes of freight transportation in central Minnesota are by rail and truck but the Plan overviews air and water freight opportunities as well. Each of these modes provides different types of services, and move different types of cargo with various localized challenges.

- Rail Transportation - lack of intermodal facilities; limited rail access facilities; influx of freight rail (North Dakota Bakken Oil Field, etc.)
- Truck Transportation - Interstate 94 corridor is the predominate corridor for truck traffic; decreasing truck speed; overnight truck parking availability
- Air Transportation - No current air cargo shipping, analyze potential benefits of adding air cargo and pursue further if necessary

Intermodal terminals represent key nodes in the regional freight system, defined as locations where freight is transferred from one mode of transportation to another. Intermodal terminals include truck/ rail, container (containers on flat cars, trailers on flat cars, bi-modal), pipeline terminals, air cargo terminals, grain shuttle terminals, and lake terminal/ports. Notably, there are no intermodal container terminals or waterway terminals within the study area. Nearest access to intermodal container service is at the CP Shoreham Yard in Minneapolis and at the BNSF Railway Midway Yard in Saint Paul. Nearest access to waterway terminals is located in the Twin Cities (Minneapolis, St. Paul, Savage), and in Duluth/Superior. Reference MnDOT 2012 Central Minnesota Freight Study at:
http://www.dot.state.mn.us/planning/freightplan/central/files/CentralMinnesotaFreightStudy.pdf

Figure 11-2: Intermodal Terminals in Central Minnesota

Company Name	Type	Location	Commodities
Becker Warehouse & Reload (UMI, Inc.)	Truck/Rail Terminal	Becker	Steel, Lumber, Bulk Plastics
Maiers Transport	Truck/Rail Terminal	St. Cloud	Building Prod, Food, Paper, Other Manufactured Goods
Waite Park Transload	Truck/Rail Terminal	Waite Park	Lumber, Steel, Stone

Although container terminals currently do not exist in the St. Cloud Metropolitan Area, the projected growth of the region could lead to a greater need to develop such facilities. Thus, the various stakeholders for each facility should be incorporated into the planning process so that future opportunities are not precluded. In order to ensure proper functioning of the railroad as a viable transporter of goods, it may begin to look into additional intermodal opportunities. The use of trailers and containers on flat cars promotes cooperation between trucking and rail modes. This cooperation can also limit congestion on local highways, save energy, and be more environmentally friendly. Currently, various industries throughout the St. Cloud Metropolitan Area must truck freight to St. Paul to reach the nearest container terminal. Accordingly, with rail lines owned by one major carrier (BNSF), opportunities may exist for expanded use of railroads in goods movement, creating opportunities for partnerships between select trucking companies and BNSF. With the increased use of intermodal transport due to its cost-saving efficiency, trucks and trains can effectively increase productivity and lower transportation costs.

11.5 Modal Choice

Freight may be moved by truck, rail, air, and/or water. Modal choice depends largely on the characteristics of the goods being moved (size, weight, packaging requirements, shelf life, value, etc.), where it is going, and when it needs to get there. Not all modes may meet the shipping requirements of a particular good. In addition, more than one mode may be used to transport a good because either the product has been altered (size, volume, etc.) or it becomes more cost effective to use intermodal facilities. Therefore, it is important to understand what role each mode plays in the freight industry.

Figure 11-3: Modal Comparisons

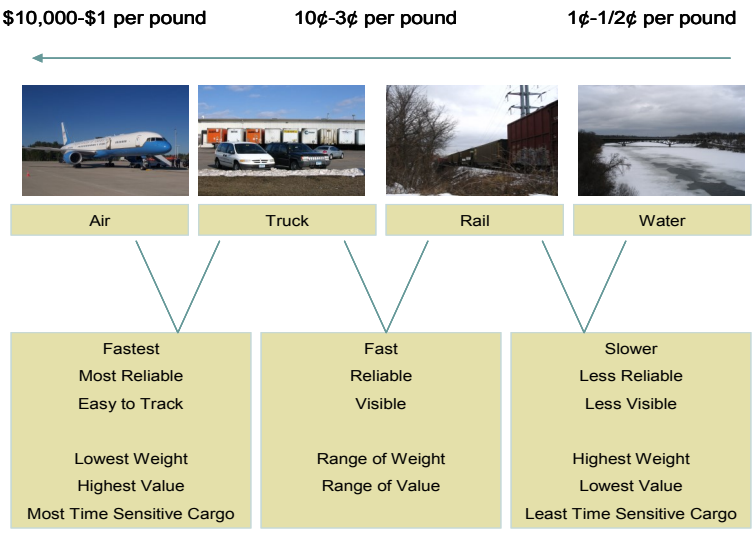


Figure 11-2 illustrates the general characteristics associated with each mode. Figure11-3 provides an overview of statewide modal share.

Freight Mode Share in Minnesota (by ton miles); 2002-2011

MODE	SHIPMENT VALUE (IN BILLIONS OF TON MILES)			SHARE OF TOTAL	
	2002	2011	+/-	2002	2011
Rail	82.7	109.8	+ 27.1	26.6%	34.0%
Truck-only	83.9	96.3	+ 12.4	27.0%	29.8%
Water	68.8	36.8	- 32.0	22.1%	11.4%
Pipeline	24.9	34.9	+ 10.0	8.0%	10.8%
Other*	50.8	45.1	- 5.7	16.3%	14.0%
Total	311.0	322.7	+ 11.7	100%	100%

* Includes multiple modes, air and other/unknown
Source: Federal Highway Administration; Freight Analysis Framework, version 3

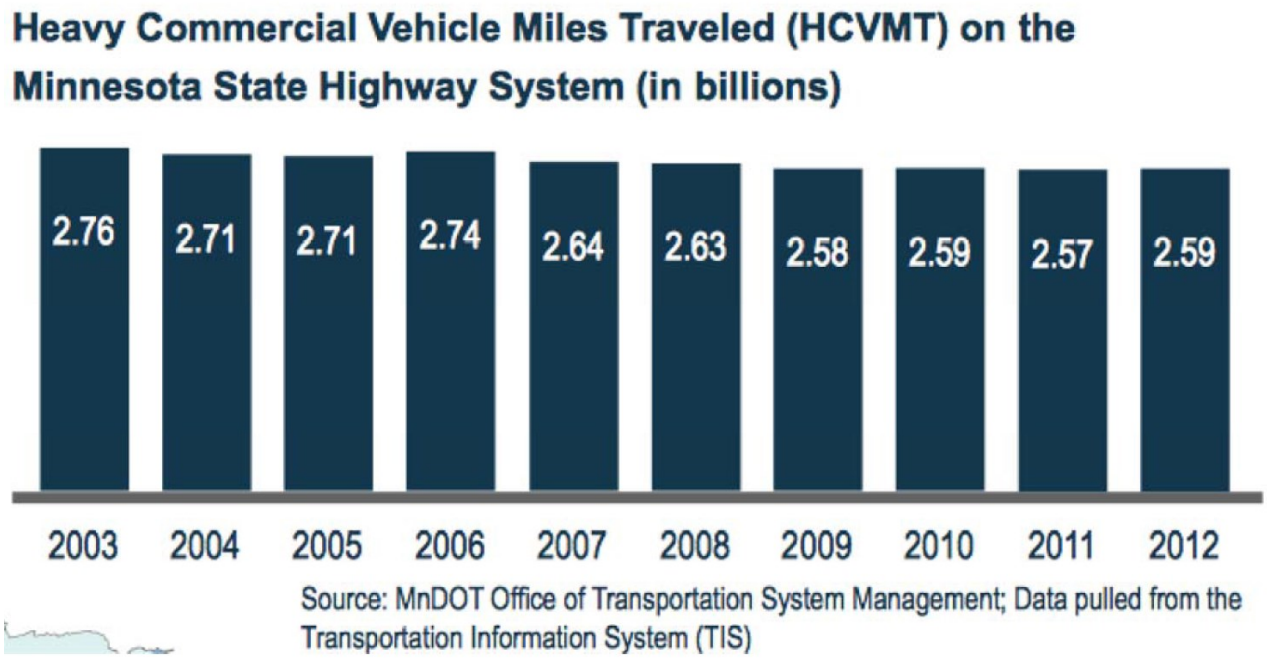
Figure 11-4: MN Freight Mode Share (2002-2011)

11.6 Commercial Trucking in Minnesota

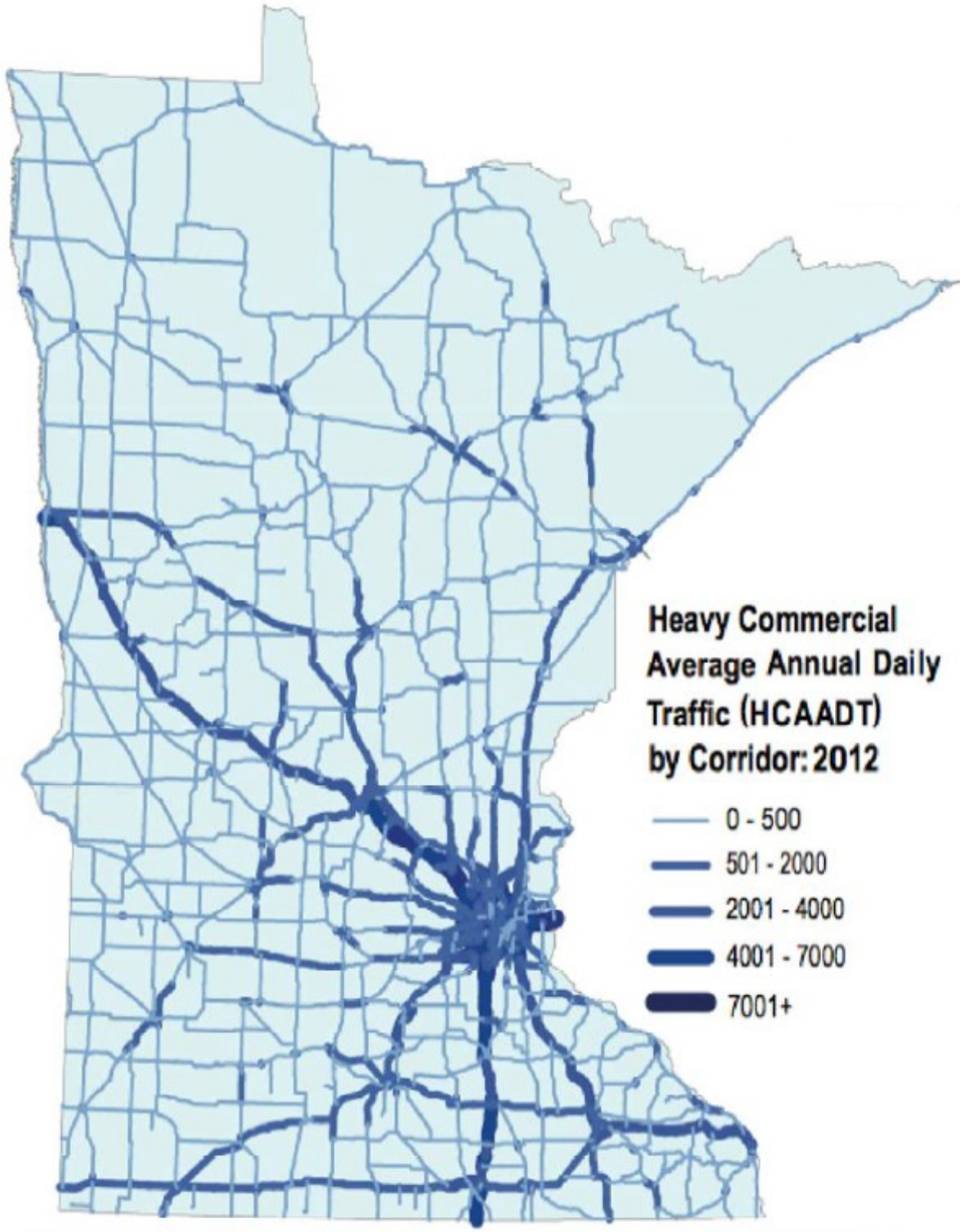
For the purposes of this Plan, a truck is defined as any vehicle designed for the transport of cargo (rather than passengers) with three or more axles. Therefore, smaller vehicles such as delivery trucks are unclassified and are measured in person trips. The movement of goods by truck provides cost-effective, door-to-door service for businesses, factories, and consumers. Factors such as speed, route flexibility, specialization, and less stringent packaging requirements are some of the benefits to moving goods by truck. Access and versatility allows trucks to operate as a central link in the distribution of goods and services. Accordingly, trucks are the mode used most often for the timely movement of goods, particularly over short-mid range hauls. Centrally located within the state, the St. Cloud Metro Area is an outstanding location, giving local trucking firms opportunities to provide low-cost and efficient transport of goods. In the State of Minnesota, truck traffic is expected to grow substantially over the next twenty years. Currently, the APO travel model assumes that truck traffic accounts for approximately 10 percent of the ADT on major roadways. By 2040 the truck traffic on all of these routes is expected to increase proportionally. Unfortunately no new major highways or capacity improvements on the greater Minnesota Interregional Corridor system are planned in the State's 20-year Plan. The future of motor freight transportation involves coordination with the diverse trucking industry and the industrial/commercial facilities that depend on haulers. For more specific information or to learn the state strategies for the Minnesota Interregional Corridor system find the Minnesota State Highway Investment (SHIP) Plan at http://www.dot.state.mn.us/planning/mnship/pdf/MnSHIP_Overview.pdf

(2003-2012)

Figure 11-5: Minnesota Commercial Trucking Vehicle Miles Traveled



Map 11-1: Minnesota Commercial Trucking Avg. Annual Daily Traffic



Source: MnDOT Office of Transportation System Management; Data pulled from the Transportation Information System (TIS)

To gain a better understanding of local trucking issues, the APO developed a survey in 2009 for key stakeholders to suggest local future trucking freight priorities for the 2035 Plan:

Connectivity and Congestion

- Improve north/south and east/west movements within the St. Cloud Metro
- Interchanges along TH 15 (at 2nd St, Division, and 3rd St)
- A bypass to Division Street or additional service roads
- Additional intersections with left turn arrows
- A bridge to service the St. Cloud Industrial Park West
- An additional bridge crossing the Mississippi River
- Extend Saukview Drive to connect from 72nd Avenue to TH 23

Access and Control

- Improve access along TH 10
- Develop a new Mississippi River crossing connection from TH 10 to I-94
- Review signal timing along TH 15 and TH 23 at Mayhew Lake Road
- Improve merging lanes on roadways with heavy truck traffic to assist in turning movements (Co Rd 75 in St. Joseph to Co Rd 133)

Intermodal Opportunities

- Plan for citywide commerce and industry within industrial parks (specifically at the St. Cloud airport)

Short Term Strategies

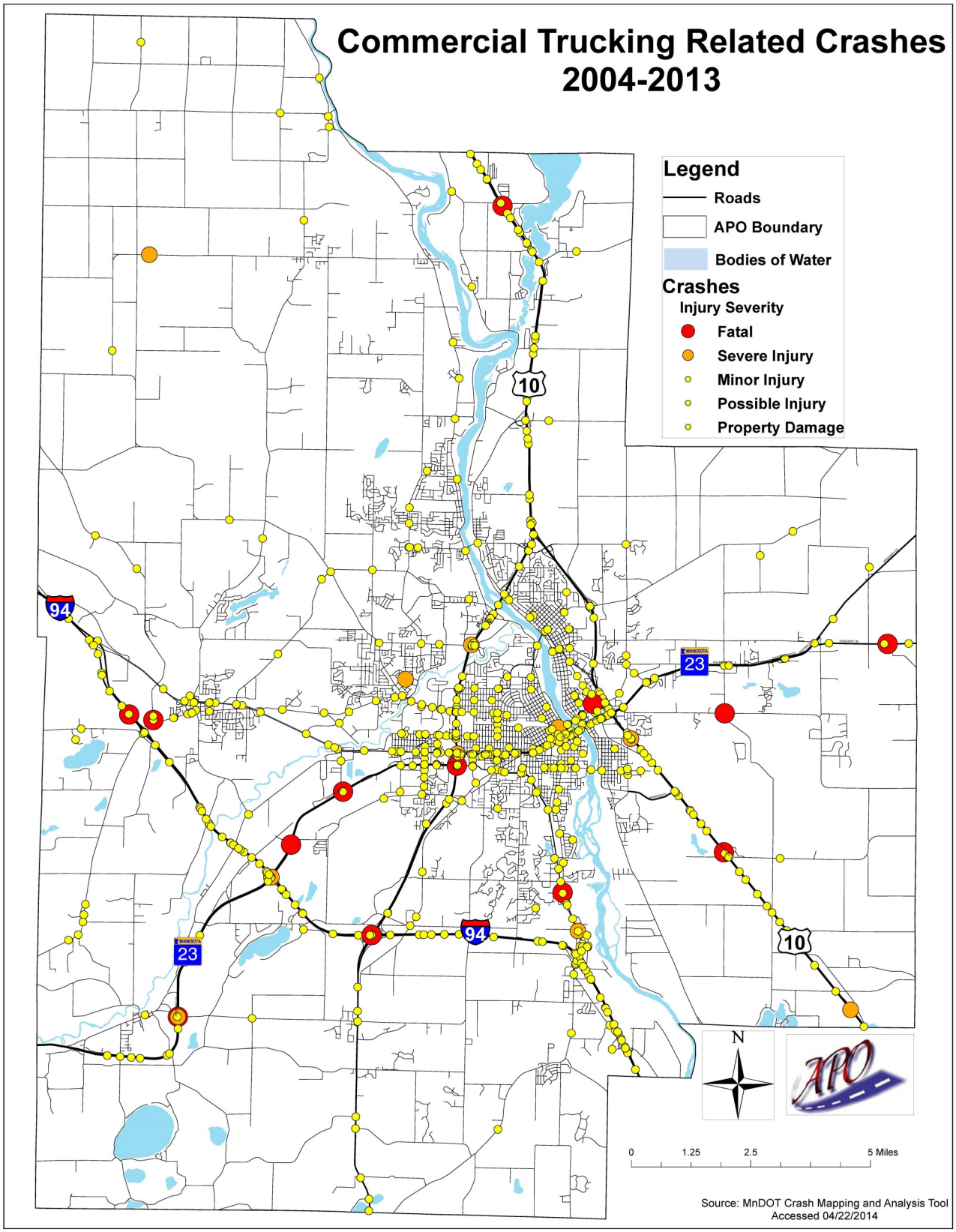
- Participate in the MnDOT guided Central Minnesota Regional Freight Plan/Study
- Conduct a comprehensive freight movement inventory to provide a better understanding of freight mobility specific to the St. Cloud Metro Area. This inventory should include commodity flow information (in, out, within and through),
- identification of major, local, freight generators (origins and destinations),
- pivotal roadways used for freight movement to help identify deficiencies and impediments to freight connectivity (including intermodal connectivity),
- crashes involving trucks relative to major freight corridors, and
- the most appropriate modeling techniques to forecast potential impacts.

Long Term Strategies

- Improve deficiencies on the roadways used by major freight generators identified by the detail freight movement inventory.

Establishing dialogue with the freight community as a component of the 2012 Central Minnesota Freight Plan will be helpful in continuing to develop and refine opportunities for improving modal efficiencies for the freight system. To follow-up on these and additional freight concerns and priorities in the region the APO is partnering with the Greater St. Cloud Development Corporation to conduct an Intermodal Freight hub study beginning in the Fall of 2014. The study intends to identify the logistics, benefits and challenges of developing an Intermodal Freight hub in the region.

Map 11-2: Minnesota Commercial Trucking Related Crashes (2004-2013)



11.7 Minnesota Freight Rail Movement

Minnesota's rail system consists of four major carriers known as Class l Railroad. As of 2008 these carriers have annual gross operating revenues over $261.9 million and move 31 percent (in tons miles) of the total freight for Minnesota (10 percent of the total value). However, within Central Minnesota, only three (3) percent of the freight tonnage and eight (8) percent of the value is moved by rail. This disparity in regional versus statewide freight mode movement may be due to the proximity of the St. Cloud Area to the Twin Cities and the ease of transporting freight by truck to the intermodal freight distribution centers in Minneapolis-St. Paul. Map 11-3 depicts the entire Minnesota freight rail system with volumes and speed. In general, railroads are considered long-haul carriers. The Class I railroad companies operate 3,250 miles of rail lines in Minnesota and include:

- Burlington Northern Santa Fe (1,641 miles)
- Canadian Pacific Rail System (651miles)
- Union Pacific Railroad (507 miles)
- Canadian National Railways (451 miles)

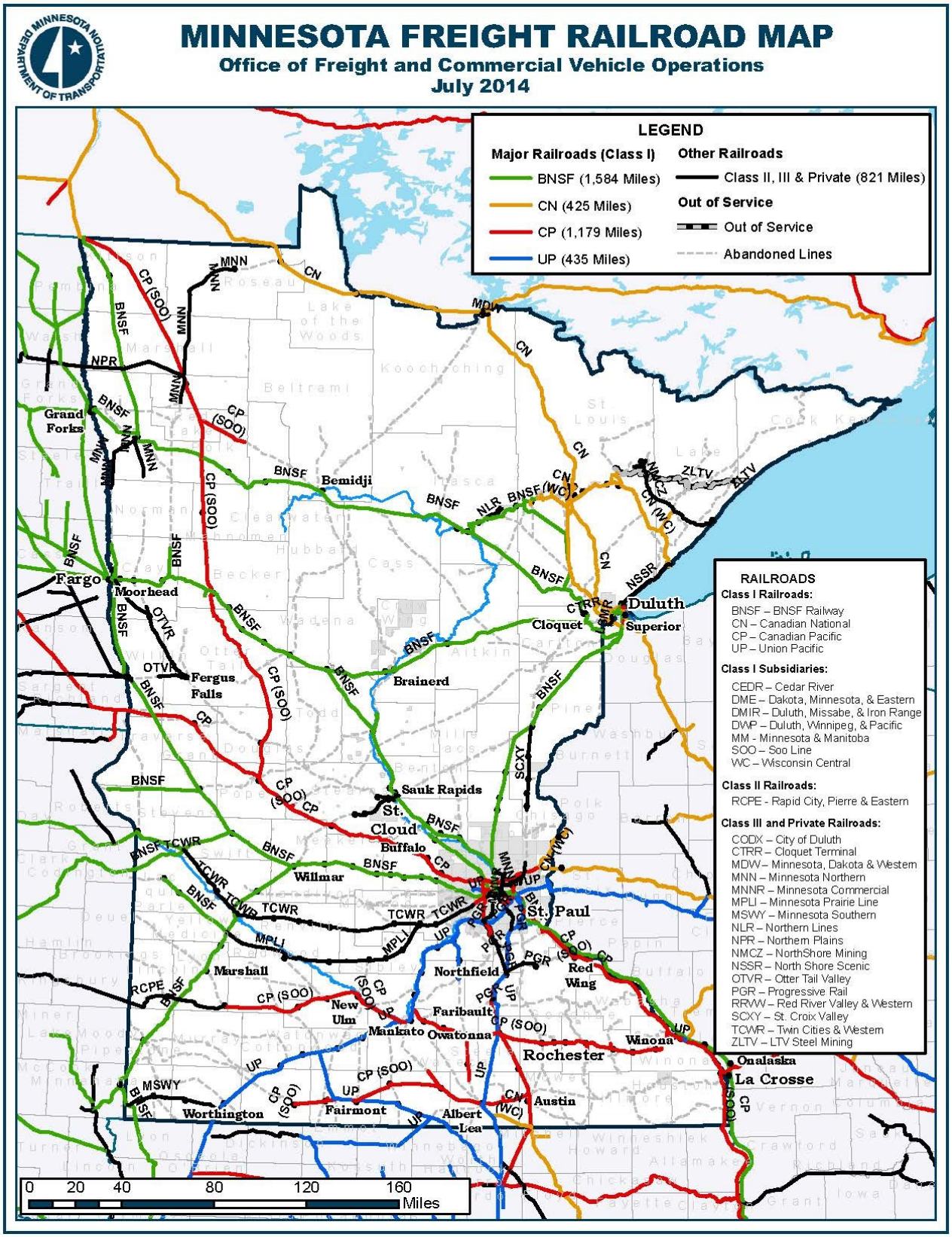
Combined Rail Flows

The St. Cloud Metropolitan Area includes portions of Stearns, Benton and Sherburne Counties, in which Burlington Northern Santa Fe (BNSF) is the only Class I rail line operator. Northern Lines Railway operates a short system that connects to the BNSF track. Therefore, providing for the needs of rail transportation in the St. Cloud Metropolitan Area involves working closely with the Burlington Northern Santa Fe Railroad. Each year, BNSF carries high volume bulk cargo long distances such as oil, coal, aggregates, paper products, freezers, and scrap. Map 11-3 shows the entire rail system in the State of Minnesota, but more importantly the BNSF line that parallels Trunk Highway 10.

Increased Traffic

This BNSF line has carried one of the highest volumes of cargo in the region for many years. Particularly over the last 1-2 years increases in Bakken Oil and Gas shipment from North Dakota has resulted in significant delays to other types of cargo including agricultural products and coal. Currently there are as many as 5 crude oil trains a day passing through the St. Cloud area on the BNSF line. Delays in shipping of corn, soybeans and wheat in particular are damaging to the overall Minnesota economy and the farmers that depend upon efficient delivery of their commodities. Increasing demand of the BNSF line has resulted in severe bottlenecks between the Twin Cities and the St. Cloud region. This has in part caused significant delays to passenger rail service of both Northstar Commuter Rail and Amtrak's Empire Builder service between Chicago/Twin Cities and Seattle/Portland. Delays have resulted in the Empire Builder having the lowest on-time performance in 2013-2014 of all of the Amtrak routes nationwide. These are growing concerns that require direct attention at the local, state and federal levels.

Map 11-3: MN Freight Rail System Volumes (2014)



Safety Challenges

Safety is an important issue surrounding rail movement, and is becoming a growing national concern of late. Local jurisdictions should identify potential conflicts with other users of the transportation system such as automobiles, Truck Freight, bicyclists and pedestrians. MnDOT's implementation of the Safety Management System should enhance the ability to track this information. With increasing oil shipments throughout the country federal, state and local planners are reviewing existing transportation policies. In response to a sharp increase in volatile oil train fires, USDOT has now passed new regulations that thousands of older tank cars that carry crude oil be phased out over the next two years and to be replaced by newly built, more secure cars that are better equipped to sustain damage.

Figure 11-6: BNSF train carrying crude oil cars

Recently USDOT declared that all railroads that operate trains containing large amounts of Bakken Crude Oil (approximately 35 tank cars) are now required to notify State Emergency Response Commissions about these trains operating through the state. Notifications must include estimated volumes of Bakken Crude Oil being transported, frequencies of anticipated train traffic and the route through which Bakken Crude Oil will be transported. This has considerable impact locally as the BNSF route parallel to Highway 10 has a high volume of Bakken Crude Oil traffic.

MnDOT has begun to review railroad crossings throughout the state to prioritize those that pose the biggest dangers. Due to the significant volumes of freight traffic as well as the population base, the St. Cloud Area in particular has been identified as a top priority. In 2013, there were 53 highway-rail crossing collisions statewide resulting in 6 deaths and 26 injuries. Recent oil freight derailments including one in North Dakota along the same line are the main impetus for growing concern of the potential for catastrophic loss near populated areas. The Minnesota legislature in early 2014 passed a bill intended to address safety concerns particularly in populated areas adjacent to lines carrying crude oil. The bill also funds more safety inspectors and emergency response training along with requiring railroad companies to submit disaster prevention plans.

Figure 11-7: At-Grade BNSF Crossing at State Highway 301 & U.S. 10

11.8 Rail Quiet Zones

A quiet zone is a section of a rail line at least one-half mile in length that contains one or more consecutive public highway-rail grade crossings at which locomotive horns are not routinely sounded when trains are approaching the crossings. The prohibited use of train horns at quiet zones only applies to trains when approaching and entering crossings and does not include train horn use within passenger stations or rail yards. Train horns may be sounded in emergency situations or to comply with other railroad or FRA rules even within a quiet zone. Quiet zone regulations also do not eliminate the use of locomotive bells at crossings. Communities wishing to establish quiet zones must work through the appropriate public authority that is responsible for traffic control or law enforcement at the crossings. The Federal Railroad Administration (FRA) lists two rail quiet zones within the APO, St. Cloud and Sauk Rapids, both along the BNSF route. The complete list of quiet zone location is found at: http://www.fra.dot.gov/eLib/details/L05204#p1_z5_gD_kquiet%20zone%20locations

11.9 Freight Movement by Water

The St. Cloud area is divided by the Mississippi River and Sauk River. However, there is no freight water movement due to the dams along the Area's waterways. Another major barrier is the Coon Rapids Dam immediately northwest of Minneapolis along the Mississippi River. It is the 1st dam heading upstream from Minneapolis without a lock system disallowing for freight movement connection with the Twin Cities. The APO area dams include the St. Cloud Dam (or Tenth Street Dam), near the University Bridge, Riverside Park and St. Cloud State University. The 10th Street dam which was originally built in 1970 to protect the area from floods. The 10th Street dam is made of concrete and roughly 702 feet wide. Water falls 23.3 feet into grinders that dissolve debris and calm the water. The 10th Street dam also has gates that rise up to 3 feet to control the water level. This dam also has a limited use of generating energy for the Xcel Energy power grid through hydropower generators. The Sartell Dam (or Champion Dam) is also on the Mississippi River. This dam formerly generated hydroelectric power for the adjacent Sartell (Verso) Paper Mill which is no longer in operation. The Sartell dam is 20 feet high and has led to the formation of Little Rock Lake roughly five miles upriver. Although local waterways are not directly accessible for freight movement, the highways between the St. Cloud area, Duluth and the Twin Cities link us to water freight resources.

11.10 Freight Movement by Air

The St. Cloud Regional Airport is an on-demand air cargo facility and can provide 'belly-hold' cargo activity. Currently, however, there are no freight providers operating to/from the St. Cloud Regional Airport. The St. Cloud area is home to many manufacturing and high-tech industries with time sensitive products that may benefit from having direct air cargo service in the future. Future possibilities and logistics of air cargo in the region are contained in Chapter 12.

Long Term Strategies

- Develop a localized rail plan based on the rail analysis identifying the location of potential intermodal facilities (rail and truck).
- Incorporate Management and Operations chapter strategies including ITS strategies that could be implemented to improve freight logistics and safety.

Short Term Strategies

- Conduct a comprehensive analysis of rail movement within the APO's Planning Area to identify the types of goods being moved, track usage, surrounding land use (i.e. zoning) at existing rail terminals, and location(s) that have had conflicts with other modes of travel (i.e. automobiles).

12.1 Background: Location

The St. Cloud Regional Airport is the only publicly operated air facility within the APO Planning Area. The airport is located in the southeast portion of the planning area within the city of St. Cloud and in the northwestern corner of Sherburne County. Map 12-1 shows the location of the airport within the APO Planning area. Map 12-2 shows the St. Cloud Regional Airport in reference to the statewide MnDOT aeronautics region.

Map 12-1: Airport Location Map

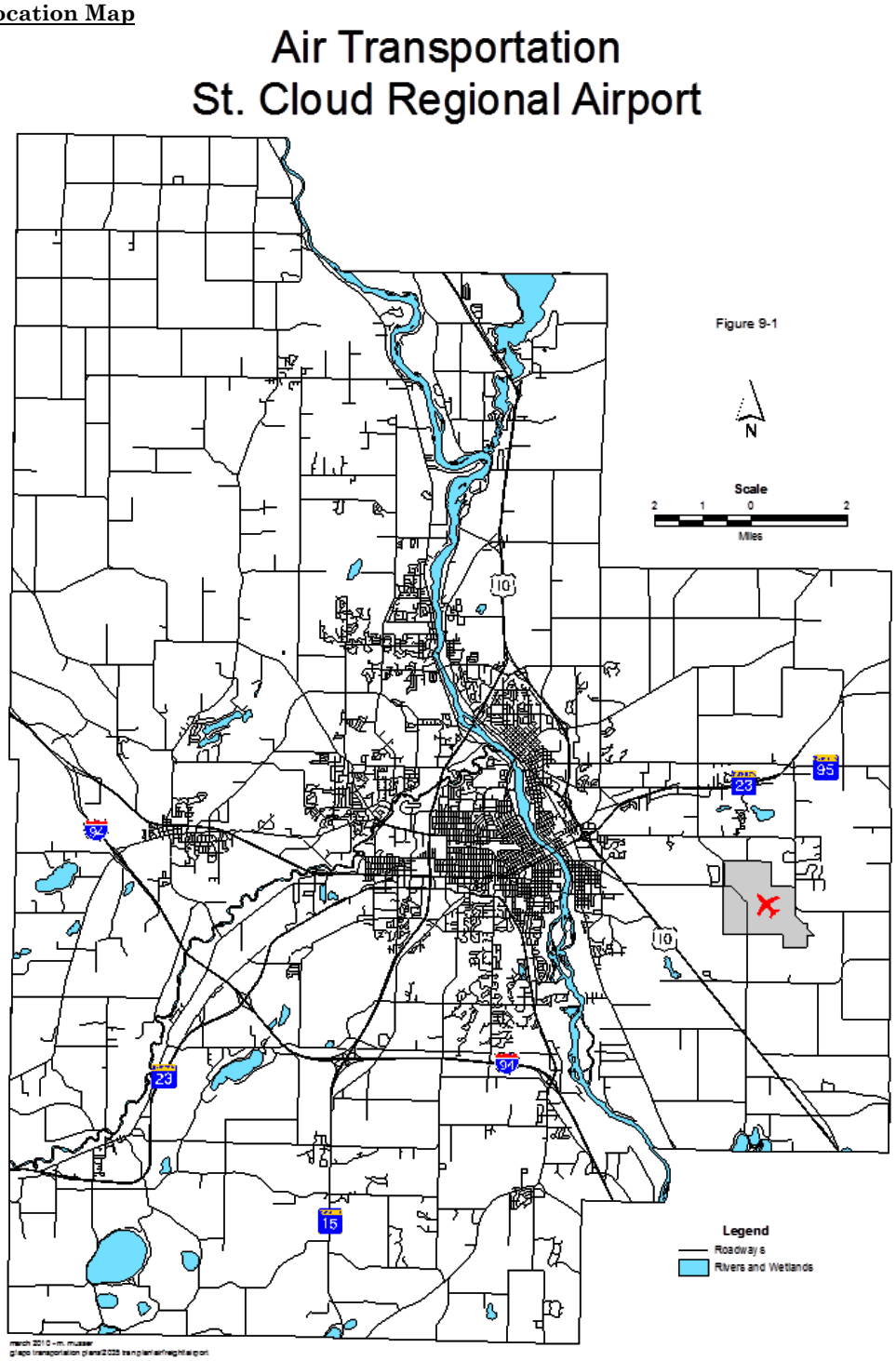
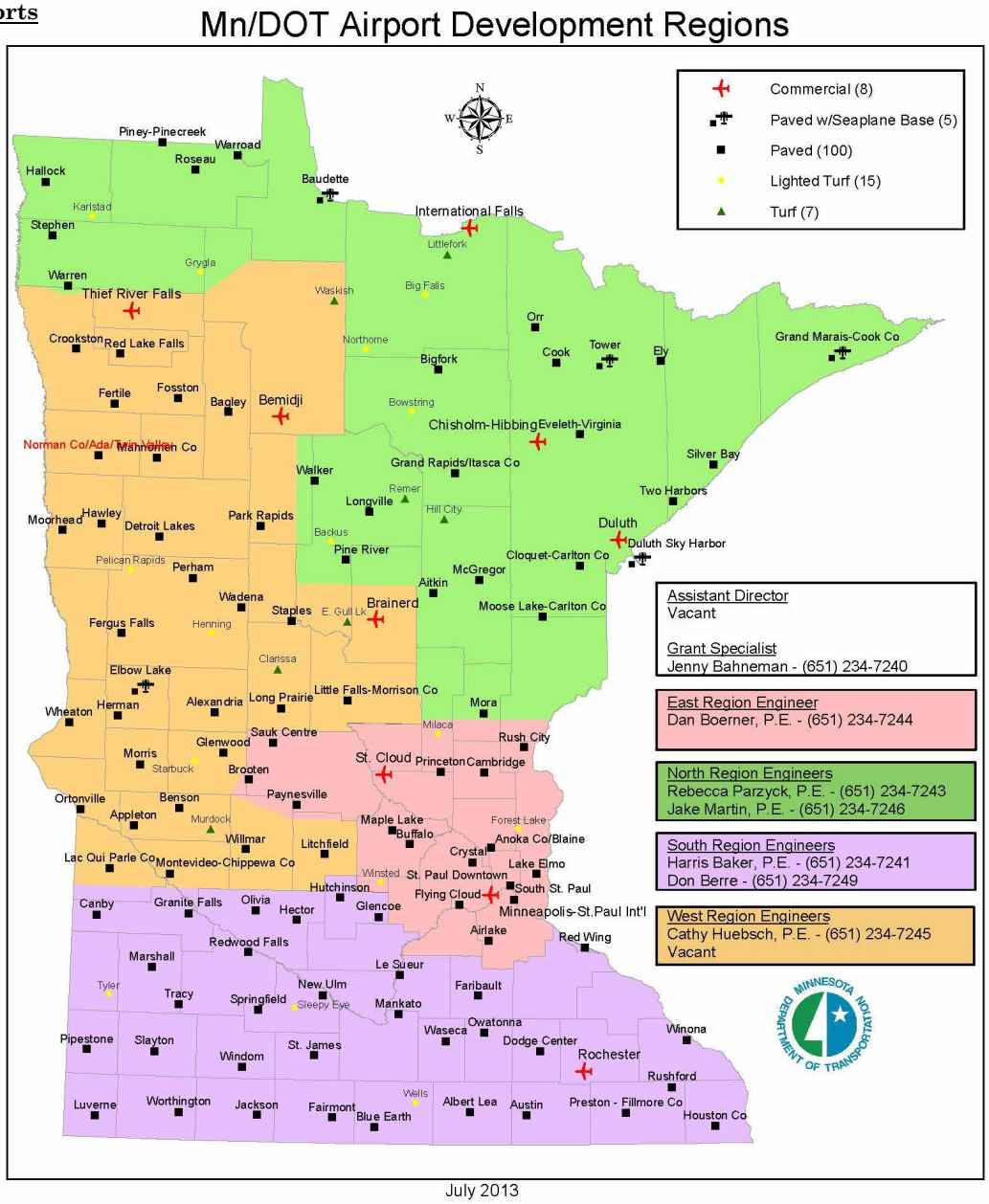


Figure 12-1: Location Information

St. Cloud Airport Location Information

FAA Identifier:	STC
Lat/Long: (estimated)	45-32-47.6000N / 094-03-5.6000W
	45-32.793333N / 094-03.593333W
	45.5465556 / -94.0598889
Elevation:	1031 ft. / 314 m (estimated)
Variation:	03E (1995)
From city:	4 miles E of ST CLOUD, MN
Time zone:	UTC -5 (UTC -6 during Standard Time)
Zip code:	56304

Map 12-2: Statewide Airports



July 2013

St. Cloud Regional Airport History

1929:143 acres near Cable, MN donated by Ms. Alice Whitney for a municipal airport for St. Cloud

1933:Construction began on Whitney Memorial II Airport

1935: Whitney Memorial II Airport opened

1967: Due to encroaching development the City of St. Cloud purchased 1,400 acres in Haven Township, 4 miles east of St. Cloud to relocate the municipal airport

1969: St. Cloud Municipal Airport constructed

1976:Airport Zoning Ordinance Enacted

1988: Wright Aero purchased St. Cloud Aviation, the FBO.

1993:Mesaba Airlines established service between STC & MSP

1995:New Passenger Terminal Constructed

1999:Aircraft Rescue & Fire Fighting (ARFF) Facility constructed

2004:Minnesota Air National Guard announced relocation of Blackhawk Helicopter Maintenance operations to STC.

2005:Snow Removal Equipment Building Constructed & New Air Traffic Control Tower opened.

2009:Opening of Minnesota Air National Guard Army Aviation Support Facility

2009:Delta ceased commercial air service at St. Cloud

2012: Allegiant Air service to Phoenix-Mesa Gateway Airport begins December 12, 2012

2013: Allegiant Air service to Orlando-Sanford International Airport begins December 18, 2013

2014: Twice a day commercial service to and from Chicago O'Hare begins on May 6, 2014

2014: SCSU Aviation Program 4-year "Teachout" concludes, ending pilot training through SCSU at the St. Cloud Regional Airport

12.2 Background: Governmental Structure

The St. Cloud Regional Airport is owned and operated by the city of St. Cloud. Policy decisions regarding the airport are made by the city council and city staff. Oversight is provided by an airport board appointed by the Mayor of St. Cloud.

12.3 Existing Conditions: Flight Services and Operations

The St. Cloud Regional Airport serves several aviation sectors including commercial aviation, general aviation, corporate aviation, and flight training. The airport currently operates commercial flight services with two carriers: Allegiant Air and United Airlines. United Airlines began twice a day service to Chicago O'Hare (ORD) on May 6, 2014.Allegiant Air seasonally operates two to three flights per week to either Orlando-Sanford, FL International Airport (SFB) or Phoenix-Mesa, AZ Gateway Airport (AZA).

Cargo service carriers such as UPS or FedEx do not operate out of the St. Cloud Regional Airport. Air cargo is shipped by truck to the Minneapolis-St. Paul International Airport (MSP). As per the MnDOT 2012 Central Minnesota Freight Plan, there is currently no significant cargo shipped through the St. Cloud Airport due to close proximity to MSP airport. There is potential for future freight service with growing commercial flight service and certain industry growth that may necessitate more direct cargo shipping but this is simply speculation at this point.

The Minnesota Air National Guard operates Blackhawk helicopter maintenance operations at the St. Cloud Regional Airport. An Army aviation support facility opened in 2009 and continues to operate at the airport.

About 100 recreational planes are based at the St. Cloud Regional Airport. The airport owns 55 airplane hangers and contracts directly with plane owners. The vacancy rate for these hangers is approximately 15 percent.

St. Cloud Aviation is the Fixed Base Operator (FBO) for the St. Cloud Regional Airport. The airport has a long term contract with St. Cloud Aviation for the rental and operation of the grounds and buildings. As the FBO, St. Cloud Aviation provides

customer service and general aviation services. For example, St. Cloud Aviation operates non-commercial private flight services. They also provide pilot training services and programs. Notably, the St. Cloud State University (SCSU) aviation program ended in the Spring of 2014. SCSU no longer has a partnership for pilot training services at the airport or with St. Cloud Aviation.

12.4 Existing Conditions: Multi-Modal and Inter-Modal Connections

With ongoing efforts to extend Northstar Commuter Rail to St. Cloud, there is tremendous opportunity for intermodal and multimodal transportation facilities in the St. Cloud Area. Currently the Northstar LINK bus stops at the park and ride facility in southeast St. Cloud, 4 miles from the airport. There is no public transportation available between the LINK bus and the airport. Taxi service currently connects passengers from the LINK bus to airport service.

Coordination would need to occur with Northstar, LINK bus, and Metro Bus in order to make multi-modal options available for airport access. Options could be explored for the LINK bus or St. Cloud Metro Bus to be routed to the airport if ridership demand increased. Commercial flight times and Northstar train and LINK bus timings do not line up and would need to be coordinated for this connection to be made functional for future passengers.

Intermodal connections do not currently exist at the airport due to the absence of freight cargo. A 2002 statewide intermodal hub study identified the St. Cloud metropolitan area as a potential intermodal freight hub or regional distribution center. This idea has since not seen any traction, with time sensitive freight continuing to travel on I-94 via truck to the Minneapolis-St. Paul International Airport. Current congestion and congestion projections on I-94, due to the lack of lane expansion between Rogers and St. Cloud, could increase the need for freight to ship out of the St. Cloud Regional Airport in the future.

Figure 12-2: St. Cloud Airport Terminal

Figure 12-3: St. Cloud Regional Airport Bird's eye view

12.5 Existing Conditions: Airport Layout

Figure 12-4 below illustrates the existing airport layout. The main runway is approximately 7,000 feet long by 150 feed wide. The crosswind runway is approximately 3,000 feet long by 75 feet wide. The airport grounds include the airport traffic control tower, airline terminal, ARRF building, general aviation terminal, and SRE building.

Figure 12-4: St. Cloud Airport Layout

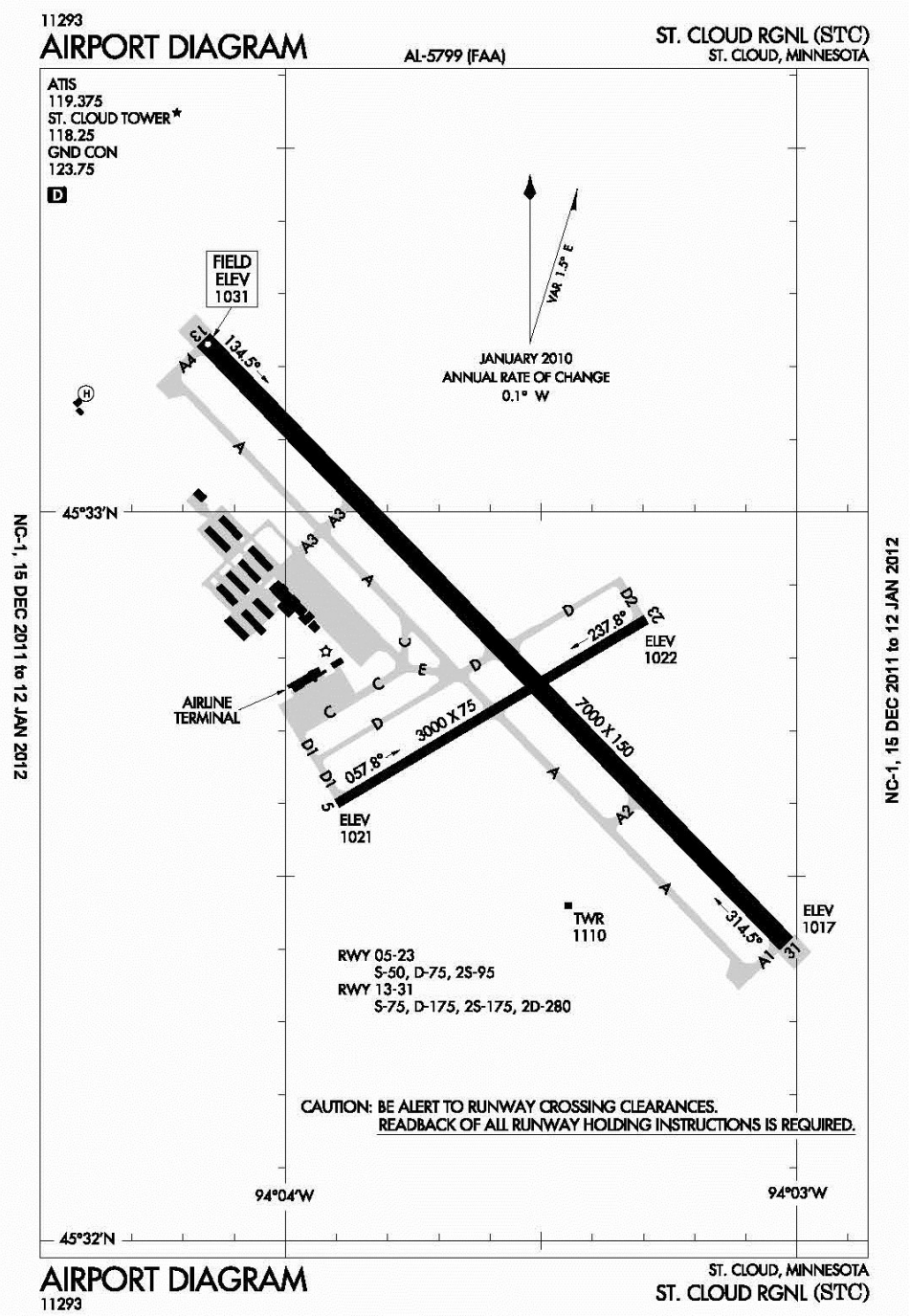
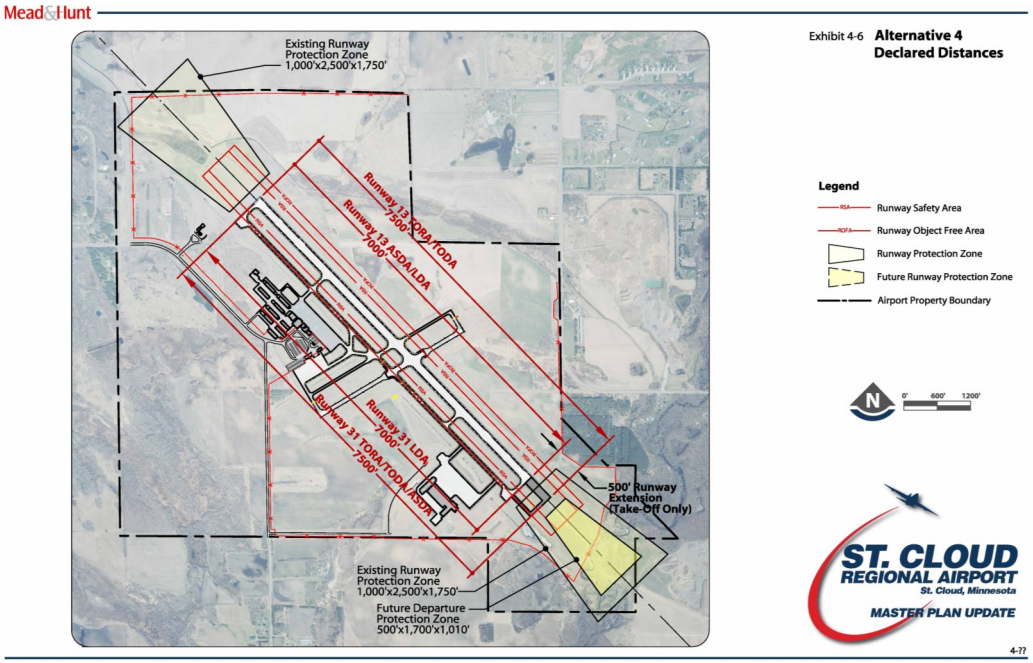


Figure 12-5: St. Cloud Airport Diagram

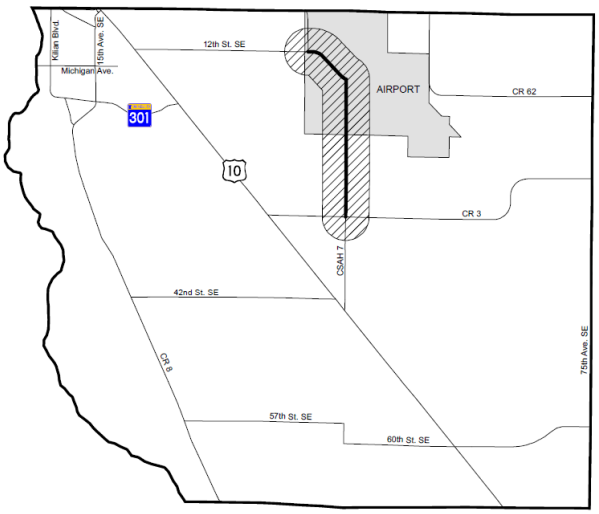


12.6 Existing Conditions: Related Studies and Plans

Several studies exist related to the growth and development of the St. Cloud Regional Airport. These include the *The St. Cloud Regional Airport Master Plan (2005),* the *2007 Sherburne CSAH 7 Environmental Assessment, and the State Aviation System Plan (2013).* The St. Cloud Regional airport master plan is updated as needed according to demand based needs.

In October 2009, the St. Cloud APO, City of St. Cloud, and Sherburne County initiated a corridor study to evaluate possible alternative alignments for CSAH 7. The corridor study process was initiated in response to a planned extension and realignment of the crosswind runway that would directly impact Sherburne CSAH 7. It was determined the future crosswind runway expansion would cross over the existing roadway object free zones, and airport safety zones. A proactive and incremental approach to addressing the transportation needs near the airport was needed. The CSAH 7 corridor study was the first step in a rigorous environmental and needs assessment process that involved public agencies such as the Federal Highway Administration, Federal Aviation Administration, Minnesota Departments of Transportation and Natural Resources, and numerous local jurisdictions along with local citizens, including residents, business owners and other area stakeholders.

Map 12-3: CSAH 7 Re-alignment Proposal



Airports, particularly with commercial service capabilities are a tremendous economic asset for any community. Ensuring the stability and growth of the St. Cloud Regional Airport is not only a transportation related goal, but an economic development necessity. In 2005, the MnDOT developed an *Economic Impact Calculator for Small and Medium Size Airports* which can be found at:http://www.lrrb.org/pdf/200519.pdf

In addition to plans specific to the St. Cloud Regional Airport, the Minnesota Department of Transportation Office of Aeronautics has prepared a number of documents related to the statewide aviation system. In 2013, an update to the Minnesota Aviation System Plan was completed. The Minnesota Aviation System Plan provides a macro level plan for guiding airport development in greater Minnesota. It provides input into the FAA's National Plan of Integrated Airport Systems (NPIAS), individual airport master plans, and the State Multi-Modal Transportation System Plan. The Federal Aviation Administration (FAA) uses the NPIAS as a basis for funding decisions, and the State Transportation System Plan guides transportation investment. For additional information on the NPIAS please visit: http://www.faa.gov/airports/planning_capacity/npias/.

An update to the Minnesota Aviation System Plan was completed using FAA's latest advisory circular on aviation system planning. The plan helps MnDOT determine the type, extent, location, timing, and cost of aviation-related development needed to insure that Minnesota has a viable system of airports. For a complete copy of the document please visit: www.dot.state.mn.us/aero/planning/sasp.html

12.7 Planned Airport Projects

In 2014-2015, the St. Cloud Regional Airport will be adding a 500 foot expansion to the southeast end of the main runway. The addition of turn lanes at the airport entrance from Sherburne CSAH 7 is scheduled for 2015 construction. A terminal area building study and environmental assessment is also scheduled for the near term to address necessary building and parking expansion issues. The next major planned expansion for the airport's main runway is to the northwest runway to bring the main runway to a total length of approximately 6,000 feet. This expansion project is planned for the 5 to 10 year timeframe. Environmental analysis will be required for this runway expansion project. Airports, particularly with commercial service capabilities are a tremendous economic asset for any community. Ensuring the stability and growth of the St. Cloud Regional Airport is not only a transportation related goal, but an economic development necessity. In 2005, the MnDOT developed an *Economic Impact Calculator for Small and Medium Size Airports* which can be found at: http://www.lrrb.org/pdf/200519.pdf.

Extension of the crosswind runway to the southwest will be dictated by increased commercial flight services at the airport. This type of major expansion would allow the crosswind runway to function as an alternate runway. It would also be an aid for snow removal purposes. This project is planned for the 10 to 20 year time horizon, dependent on service expansion. Crosswind runway expansion would require a reroute of Sherburne CSAH 7. An Environmental Assessment document was completed in 2007 identifying the preferred corridor and alignment of CSAH 7. This project is listed in the Illustrative Project List due to lack of available funding in the Fiscally Constrained Project list; however, it is projected as a need in the 20 year planning horizon. See the Roadway chapter for detailed project information.

12.8 Airport Funding

The airport is funded through FAA competitive and discretionary funds. Discretionary funds are based on data such as enplanements. The termination of the SCSU aviation pilot training program will impact overall enplanement data and potentially decrease the St. Cloud Regional Airport's competitiveness for discretionary funds.

12.9 Policy Statements

- The St. Cloud Regional Airport is important to the economic vitality and global competitiveness of the St. Cloud area.
- APO supports airport facility and service improvements to better promote and support multimodal and intermodal solutions that will improve access and mobility of people and freight to improve quality of life in the area.
- APO supports the preservation and expansion of the airport to promote connectivity between all modes of transportation.

12.10 APO Action Steps

- Continue to support development and expansion of commercial air service at the St. Cloud Regional Airport.
- Monitor the need and opportunity for air cargo freight at the St. Cloud Regional Airport.
- Monitor ridership needs for multimodal connection from St. Cloud Metro Bus and Northstar LINK to the St. Cloud Regional Airport.

13.1 Safety Introduction

The APO is committed to making transportation safety an integral part of the transportation planning process. The APO has incorporated safety goals and objectives into its long range transportation plan (LRTP) in order to enhance safety education, enforcement, engineering, and emergency management services.

To develop and maintain a transportation system that promotes the safety of all users is the safety goal established by the APO. To accomplish this goal the APO will reduce the number of fatalities consistent with the "Toward Zero Deaths" initiative and the severity of crashes throughout the APO area. The emphasis will be on developing and funding transportation improvements that address safety and operation needs. Finally, the APO will continue to implement intersection safety improvements from the annual Transportation System Management (TSM) Report.

13.2 Crash History

The main safety focus considered in this document is motor vehicle crashes. While safety is a concern across all modes of transportation, traffic crashes account for the most property damage, injuries, and deaths to the public. According to the National Highway Traffic Safety Administration (NHTSA), in 2011 there were 29,757 fatalities as the result of crashes across the nation, including 368 in Minnesota representing a 10.5 percent decrease in deaths, in the State, from 2010. Unfortunately, despite the significant decline in deaths since the 1970's, the most recent data from the Minnesota Department of Public Services show that 395 people died in 2012.

Figure 13-1: Fatal Crash History

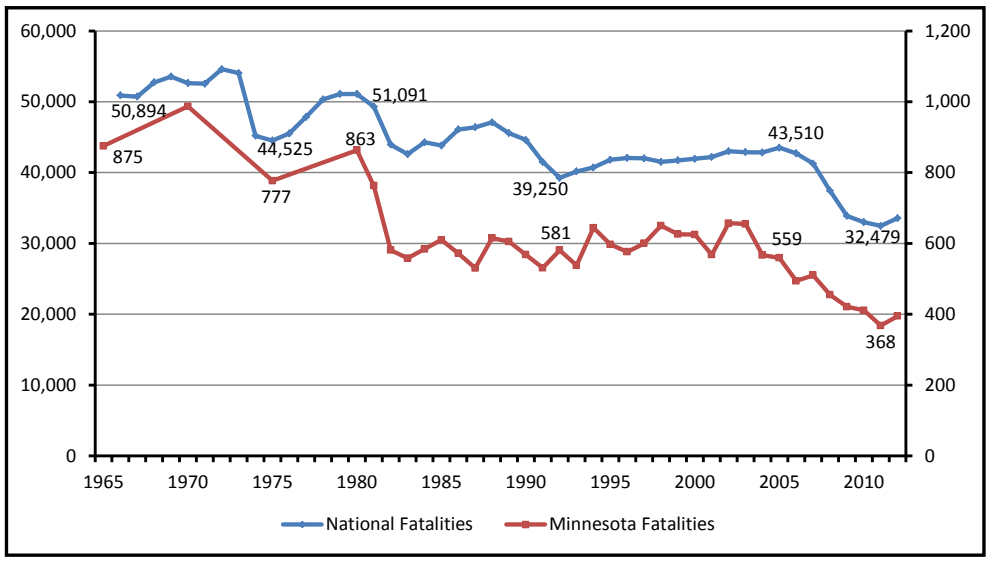
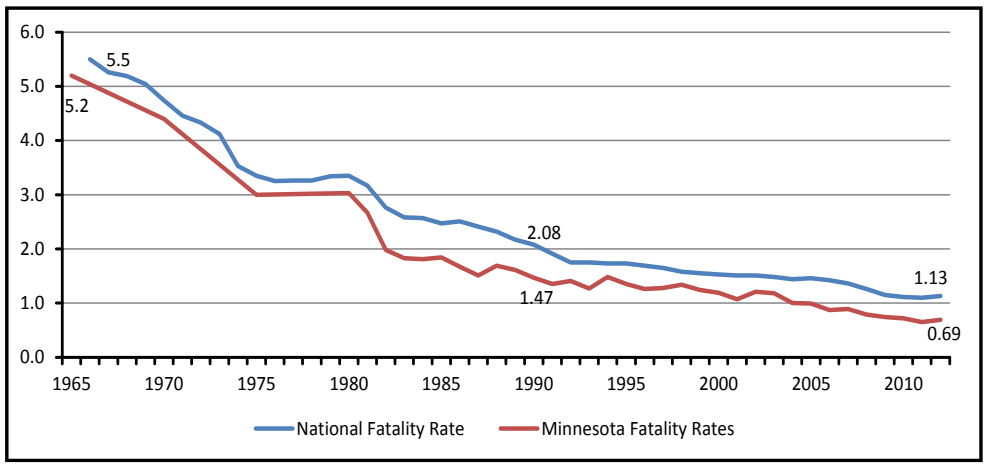


Figure 13-2: Historic Fatality Rates



Within the APO fatal crashes and other serious injuries have remained fairly steady the last several

years with a total of 9 fatalities and 150 serious injuries in 2013, the most recent year for statistics. In part the relative consistent nature of severe crashes in the APO is the result of engineering improvements combined with a stable increase in traffic volumes.

Figure 13-3: APO Severe Crashes

Year	Fatality Crashes	Serious Injury Crashes	Total
2009	2	164	166
2010	9	147	156
2011	5	139	144
2012	6	153	159
2013	9	150	159

The fatality rate, or the number of deaths as a result of motor vehicle crashes per 100 million vehicle miles traveled, has also seen a similar decline in the State and in the nation over the years. According to the MnDOT's 2014 update of the Strategic Highway Safety Plan, Minnesota had the second lowest traffic fatality rate, nationally, in 2011.

13.3 Safety Planning at the State Level

Crashes at the state level are a primary concern, and the Minnesota Department of Transportation has been involved in several initiatives related to improving safety on the roadways. There is a wealth of crash information and several tools for users located on the MnDOT website, as well as, documents and plans outlining safety efforts. Multiple planning efforts are outlined below.

Toward Zero Death (TZD)

Minnesota has a long history of developing and implementing programs focused on improving traffic safety. Before 2001, these activities were primarily the responsibility of individual state agencies. In response to an increasing trend in the number of traffic-related fatalities and serious injuries in Minnesota and concerns about the effectiveness of individual safety efforts, the Minnesota Departments of Public Safety, Transportation, and Health in 2003 established the Toward Zero Deaths (TZD) program to integrate safety programs in the State.

Since the creation of TZD, traffic fatalities have decreased by 40.5 percent. Had the trend between 1995 to 2003 continued, an estimated 2,046 more lives would have been lost on Minnesota roads.

Today, Minnesota TZD is the State's cornerstone traffic safety program, employing an interdisciplinary approach to reducing traffic crashes, injuries, and deaths on Minnesota roads. While individual disciplines have a long history of successful traffic safety programs, TZD aims to tie these individual efforts together with a common vision and mission for even greater success. TZD uses a data-driven, interdisciplinary approach that targets areas for improvement and employs proven countermeasures, integrating application of education, enforcement, engineering, and emergency medical and trauma services (the "4Es"). Other similar programs across the world have proven that the combination of strategies from different focus areas is often most effective for solving a particular problem.

Within the St. Cloud area there are several organizations and coalitions with ties to the Statewide TZD program. The Sherburne County Safe Roads Coalition was developed in October 2010 in partnership with the MnDOT Office of Traffic, Safety & Technology. The Sherburne County Sheriff's Office leads the coalition with funding through the Toward Zero Deaths Safe Roads grants. To date, over 70 concerned

residents and professionals, spanning the four E's, work to promote traffic safety through the coalition in Sherburne County with the ultimate goal of reaching zero deaths on roadways through such efforts as intensive police stings, a sober cab program and media campaigns such as a poster contest. Several area police departments, including St. Cloud and the Stearns County Sheriff's Office, continually implement TZD principals in such ways as continuous coordinated enforcement efforts throughout the year and participation in community policing activities, such as mock car crashes, bike rodeos, child passenger safety clinics, and safety education in schools.

Intelligent Transportation Systems (ITS)

The State of Minnesota has experienced significant safety improvements as the result of the implementation of Intelligent Transportation Systems (ITS) across all levels of the roadway system. For more information about ITS please see Chapter 7 ITS

Minnesota Statewide Highway Safety Plan

Leading the engineering component of the safety equation is MnDOT. The primary guiding force since the passage of SAFETEA-LU, and only reinforced in MAP-21, is the State's Strategic Highway Safety Plan (SHSP). The 2007 Strategic Highway Safety Plan built upon the data driven recommendations created in the 2004 Comprehensive Highway Safety Plan (CHSP) by confirming that the Critical Emphasis Areas (CEAs) identified in 2004 still represented the focus of where Minnesota's safety planning and implementation should be directed. The Emphasis Areas represented driver behavior (seat belt usage, impaired driving, aggressive driving and young drivers), infrastructure (road departure, intersections and head on crashes), data information systems and driver safety awareness. This helped to form the core set of key focus areas for not only MnDOT on the engineering side but also for the remaining TZD partners.

The 2007 Plan selected a total of ten emphasis areas from the AASHTO SHSP to represent Minnesota. These ten were restructured to create five CEAs as seen below:

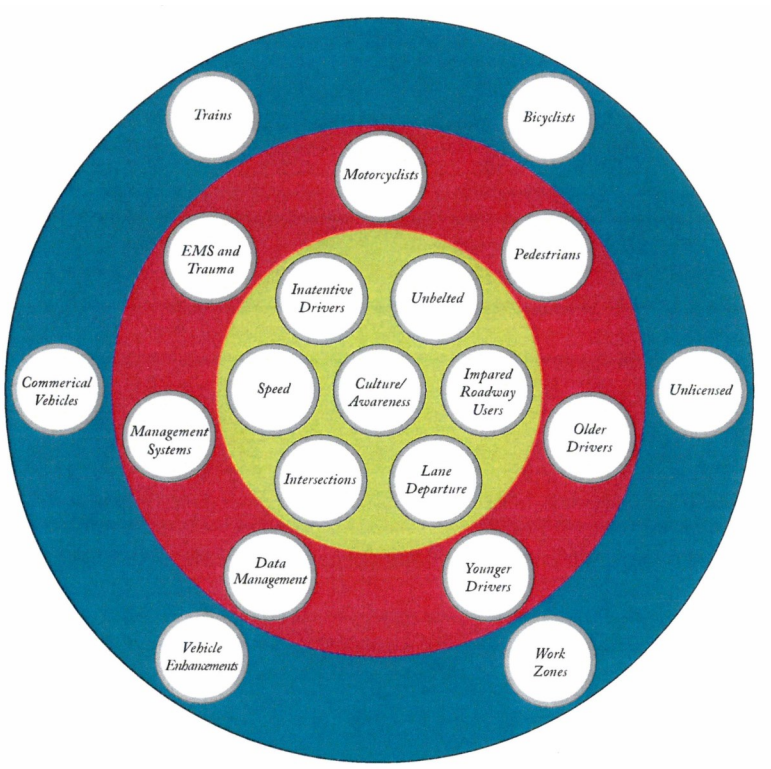
- CEA 1 – Reducing Impaired Driving & Increasing Seat Belt Use
- CEA 2 – Improving the Design and Operation of Highway Intersections
- CEA 3 – Addressing Young Drivers (Under the Age of 21) Over Involvement & Curbing Aggressive Driving (Speeding-Related)
- CEA 4 – Reducing Head-On and Across-Median Crashes, Keeping Vehicles on the Roadway & Minimizing the Consequences of Leaving the Road
- CEA 5 – Increasing Driver Safety Awareness & Improving Information Systems

As part of these emphasis areas an additional focus was placed on proactively deploying low cost intersection and road departure strategies broadly across the system. While programs in urban areas would be most effective if they are focused on reactively deploying higher cost intersection treatments. Such solutions included constructing median barriers for narrow-width medians on multilane roads and utilizing centerline rumble strips on undivided, two-way roads for keeping vehicles on the roads to improve lane departure crashes. To improving the operations of intersections by adding offset and/or longer turn lanes or the installation of street lighting at rural intersections.

In 2014, MnDOT will approve a new SHSP, building upon the ideas and principles developed in the previous plans. The 2014 SHSP plan continues to utilize the CEAs but instead of being entirely focused on the previous top 5 CEAs the plan has chosen to list a total of 20 emphasis areas and "target" 7 that are still seen as the most important. The 7 emphasis areas in the 2014 SHSP are:

- Traffic Safety and Awareness
- Intersections
- Lane Departures
- Unbelted
- Impaired Roadway Users
- Inattentive Drivers, and
- Speed

Figure 13-4: 2014 SHSP Emphasis Areas



13.4 Local Strategic Highway Safety Plans

One of the key elements to ensure the execution of the 2007 Statewide SHSP was the development of separate, more detailed, plans for each MnDOT District and all 87 counties across the State. The primary objective of the local plans was to identify a specific set of low cost safety oriented projects (the implementation of specific strategies at specific locations) and to have these projects directly linked to the causation factors associated with the most severe crashes on the State's system of highways.

MnDOT District 3 SHSP

One of the first Districts to start and receive a Strategic Highway Safety Plan, MnDOT District 3's plan utilized a large contingent of local technical staff (city and county engineers) to assist with its completion. In total, the District 3 plan reviewed approximately 20,350 crashes that occurred over the five year period between 2003 and 2007.

Just like the Statewide SHSP the District plan included a review of fatal and life changing crashes in each Critical Emphasis Area (CEA) for the District and on all local roads for each county therein. For the entire District 3 system the SHSP highlighted that intersection, lane departure and unbelted crashes were over represented. The state's system of roads in District 3 has an overrepresentation of fatal crashes associated with unbelted, speeding related and lane departure.

The Minnesota SHSP review of District 3 crashes in the CEA's shows that 47% of fatalities were road departure related and 53% were intersection related. In addition, of the severe (fatal plus A type injury)

crashes in District 3, road departure crashes accounted for 37% and intersection related crashes accounted for 50%. As a result of this information, it was suggested that District 3 adopt the following emphasis areas as the highest priority for safety investments:

- Driver Behavior – Young drivers, Alert drivers, and Seat belt usage
- Highways – Road Departure and Intersections

Utilizing the data and direction from the plan, recent MnDOT District 3 safety improvements include the installation of an ITS congestion detection / traffic monitoring system to improve the design and operation of a State Highway 15 intersection and the installation of median cable guardrail at various locations, especially along 4 lane divided highways.

Benton County

Completed in 2010, the Benton County Roadway Safety Plan (CRSP) reported 2,889 crashes from 2003-2007 with 22 severe and fatality crashes for a high County average crash severity rate of 3.90. 80 percent of the severe crashes on the County system (County State Aid Highways (CSAH) and County Road (CR)) occurred in rural areas, with 66 percent of CSAH/CR rural severe crashes being non-

Figure 13-5: Comprehensive Emphasis Areas Comparison

Priority	Statewide	MnDOT District 3	Benton County	Sherburne County	Stearns County
1	Impaired Roadway Users	Intersections	Intersections	Intersections	Intersections
2	Unbelted	Unbelted	Lane / Road Departures	Lane / Road Departures	Inattentive Drivers
3	Intersections	Young Drivers	Drug and Alcohol	Unbelted	Older drivers
4	Inattentive Drivers	Lane / Road Departures	Aggressive Driving & Speeding	Impaired Roadway Users	Lane / Road Departures
5	Speed	Alert Drivers	Motorcycles	Young Drivers	Young Drivers
6	Lane Departures				
7	Traffic Safety and Awareness				

intersection related crashes. Additionally, 71 percent of CSAH/CR severe rural, non-intersection related crashes are run off road crashes and another 27 percent of these occurred on a curve.

Based on this information, Benton County 's Comprehensive Emphasis Areas or CEAs are:

- Intersection Crashes,
- Road Departures,
- Drug and alcohol-related,
- Aggressive driving and speeding-related, and
- Motorcycles crashes.

Recent Benton County highway improvements include the installation of roadway curve-related warning signs and flashers and roadway delineation longitudinal pavement markings to prevent lane departures.

Sherburne County
Completed in 2010, the Sherburne County Roadway Safety Plan (CRSP) reported 6,046 crashes from 2003-2007 with 104 severe and fatality crashes for a high County average crash severity rate of 3.93. 86 percent of the severe crashes on the County system (County State Aid Highways (CSAH) and County Road (CR)) occurred in rural areas, with 57 percent of CSAH/CR rural severe crashes being non-intersection related crashes. Additionally, 51 percent of CSAH/CR severe rural, non-intersection related crashes are run off road crashes and another 39 percent of these occurred on a curve.

Based on this information, Sherburne County 's Comprehensive Emphasis Areas or CEAs are:

- Intersection Crashes,
- Run Departures,
- Unbelted Vehicle Occupants,
- Drug and Alcohol Related, and
- Young Drivers.

Recent Sherburne County highway improvements include the installation of roadway curve-related warning signs and flashers and roadway delineation longitudinal pavement markings to prevent lane departures.

Stearns County
Completed in 2010, the Stearns County Roadway Safety Plan (CRSP) reported 11,152 crashes from 2003 -2007 with 123 severe and fatality crashes for a high County average crash severity rate of 3.74. The predominant type of crash on Stearns County's rural highway system is vehicles running off the road, which accounts for 35 percent of rural crashes and 44 percent of severe rural crashes.

Based on this information, Stearns County 's Comprehensive Emphasis Areas or CEAs are:

- Intersection crashes,
- Unbelted vehicle occupants,
- Inattentive, distracted, asleep drivers,
- Older drivers
- Road departure crashes, and
- Young drivers

Recent Stearns County Highway improvement investments include the installation of roadway delineators to prevent lane departures and the construction of both a left and right turn lanes to improve the design and operation of a highway intersection.

13.5 Identified Crash Locations

Transportation System Management
Every year as part of the metropolitan planning organization's responsibilities the St. Cloud APO updates and completes a Transportation System Management (TSM) Plan. The objective of the TSM plan is to make efficient use of existing transportation resources through low-cost projects, which

improve all modes of transportation, reduce traffic congestion, conserve gasoline, and minimize air pollution. Development of the TSM includes the involvement of a wide range of transportation-related agencies and organizations through the utilization of the APO's Technical Advisory Committee (TAC). The TAC provides representation for technical staff (primarily engineers and planners) from six (6) municipalities, area townships, three (3) counties, MnDOT, FHWA, MTC, and the Minnesota Pollution Control Agency (MPCA).

The 2013 TSM identified 185 intersections, including 5 directly recognized by the TAC, for further monitoring. As part of the review, none of the identified monitored intersections have been deemed deficient in nature. This is due, in large part, to ongoing efforts to address issues identified by past TSM reports. Additionally, several areas have improvements that are currently programmed, and/or are currently under construction.

High Levels of Activity

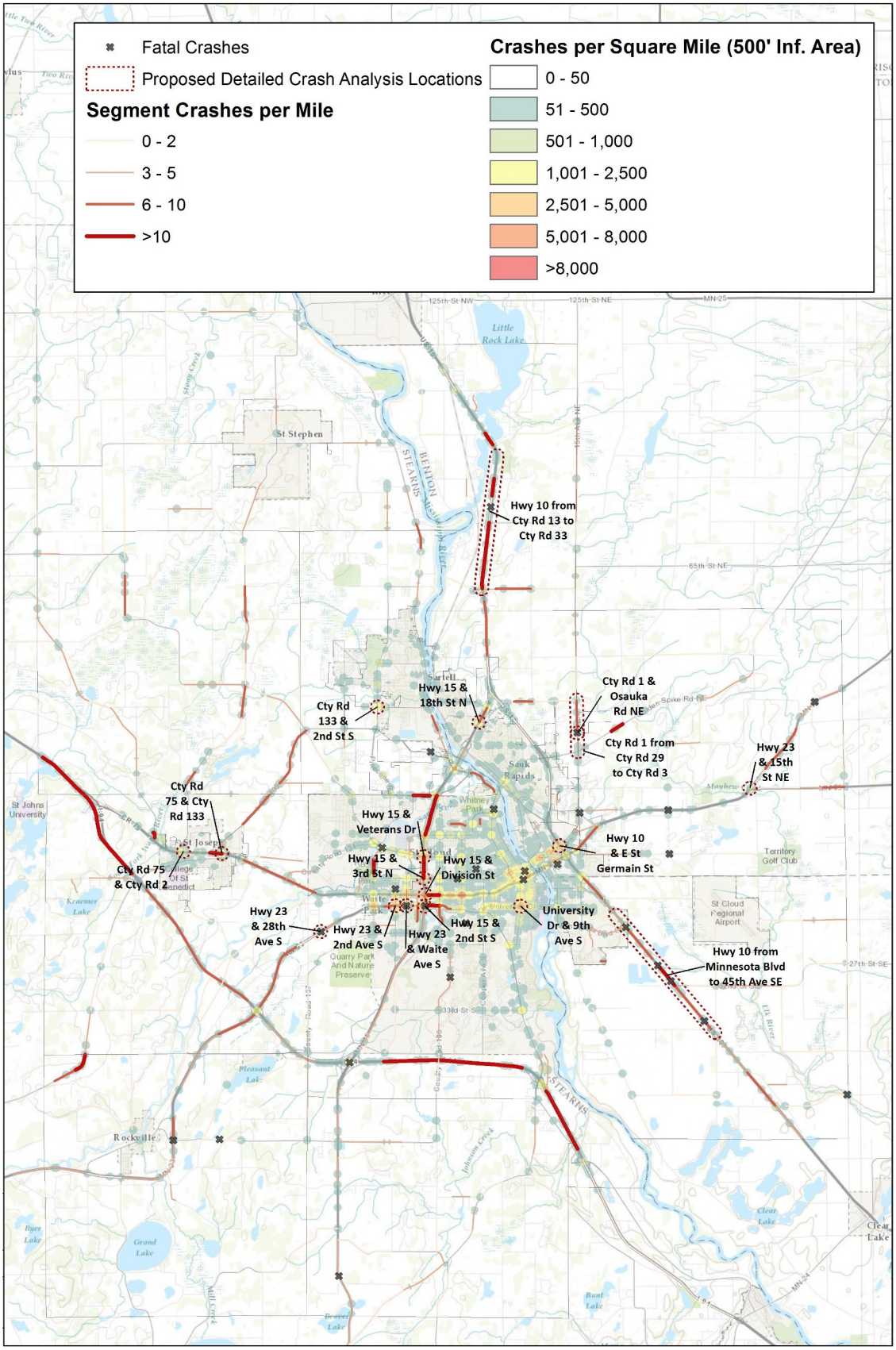
As part of the 2040 Plan an additional look was taken to identify and assess intersections and corridor segments with high levels of crash activity and to propose low cost / high benefit improvements to help improve safety. To aid in the development a three-step process included:

1. The identification of crash hotspots using crash data from Minnesota Crash Mapping Analysis Tool (MnCMAT),
2. The assessment of the crash rates at these hotspots to determine if the crash rates at these locations are significantly higher than the average for similar locations throughout Minnesota, and
3. The recommendation of low cost / high benefit safety improvements at the locations.

Crash data was collected from MnCMAT for all crashes within the St. Cloud APO boundary for the years 2008 through 2012. All crashes involving driver intoxication or chemical impairment as a contributing factor were excluded from the analysis. These crashes were removed because of the minimal opportunity of mitigating these crash types with safety or infrastructure improvements. Once the crash information was retrieved it was exported to GIS software allowing locations and corridors to be further reviewed for the amount or density of crashes and fatalities in a specific area. The locations experiencing more crashes were then advanced for further review. Additionally, some effort was made to select locations throughout the geographical area for further review. These dense locations of crashes are presented in Map 13-1.

Each intersection and corridor identified in the previous step was then evaluated in detail by comparing the actual crash rate to the expected crash rate and finally to the critical crash rate. For the purposes of this review, the actual crash rate is referred to as the ratio of the number of crashes witnessed over the 5 year period (crash frequency) to the number of vehicles entering the intersection (vehicle exposure). The expected crash rate refers to standards established by MnDOT of what an expected crash rate may be for intersections with similar characteristics such as signalization, speed, and traffic volume. Then critical crash rate, a statistical threshold based on the expected crash rate and the vehicle exposure, was calculated. In general, when the actual crash rate is above the expected crash rates there may be a problem at the location unique to that location. Then, if the actual crash rate is above the critical crash

Map 13-1: Proposed Locations for Detailed Crash Analysis



rate it means there is only a small chance that the result is due to random crash variations rather than site-specific conditions.

The results of the crash density analysis discovered 15 intersections and 3 corridors for detailed final analysis. Of the 15 selected intersections a total of eight were found to have an actual crash rate above both the critical and expected crash rate meaning they have site specific variations resulting in a frequency of more crashes. While only two intersections were found to have an actual crash rate above the expected rate meaning the intersections may have a variation that is not unique. Finally, five intersections were determined to have an actual crash rate below the expected and critical crash rate meaning there may not be as serious an issue at the intersection. A similar analysis was completed for the identified corridor segments. One out of the three corridors was found to have an actual crash rate above both the expected and critical crash rates. The selected intersections and corridors may be seen in Figure 13-6 and 13-7 respectably.

The final 10 intersections and 2 corridors were then reviewed further for causes of incidents and possible low cost high benefit solutions. The complete analysis on each intersection and corridor may be seen in Appendix D. Typical low cost solutions for intersections include:

- Adding 3-inch yellow retro reflective sheeting to signal back plates to improve signal visibility.
- Improving signal timing to intervals specified by the Institute of Transportation Engineer's Determining Vehicle Change Intervals: A Proposed Recommended Practice.
- Increase yellow change interval to reduce right-angle crashes.

Typical low cost solutions for the corridor segment include:

- Install non-vehicular (animal) reflectors to reduce collisions with wildlife, and
- Install / extend no passing line.

Figure 13-6: Studied Intersection Crash and Severity Rates

Intersection	Entering Traffic	Crash Rates			Severity Rates	
		Expected Crash Rate	Actual Crash Rate	Critical Crash Rate	Actual Severity Rate	Average Severity Rate
Hwy 15 & Veterans Dr	53,750	1	0.81	1.17	1.12	1.4
Hwy 15 & Division St	62,250	0.6	1.28	0.72	1.78	0.9
Hwy 15 & 2nd St S	53,000	0.6	1.82	0.73	2.57	0.9
Hwy 23 & Waite Ave S	45,000	0.6	0.89	0.75	1.19	0.9
Hwy 23 & 2nd Ave S	35,850	0.6	1.01	0.77	1.36	0.9
Hwy 23 & 28th Ave S	24,650	1	0.44	1.26	0.78	1.4
Hwy 10 & E St Germain St	30,750	0.6	1.1	0.78	1.66	0.9
Cty Rd 1 & Osauka Rd NE	2,950	0.3	0.74	0.78	2.04	0.9
Cty Rd 75 & Cty Rd 133	26,775	1	0.57	1.25	0.8	1.4
Cty Rd 75 & Cty Rd 2	25,550	1	0.36	1.25	0.51	1.4
Hwy 23 & 15th St NE	12,475	0.6	0.7	0.89	0.97	0.9
Hwy 15 & 18th St N	25,000	1	0.66	1.25	1.03	1.4
Cty Rd 133 & 2nd St S	17,000	0.6	1.19	0.84	1.51	0.9
Hwy 15 & 3rd St N	47,000	0.6	1.17	0.74	1.53	0.9
University Dr & 9th Ave S	33,950	0.6	1.68	0.77	2.21	0.9

Even though these 10 intersections and 1 corridor segment are identified and reviewed with possible solutions given in the Appendix, it should not be concluded that these locations are ready for a project. It is recommended that before proceeding further that any crash location be studied through the detailed intersection control evaluation (ICE) process. An ICE report will help further define the root of the problem as well as the appropriate corrective measures.

Figure 13-7: Studied Corridor Crash and Severity Rates

Segments	VMT	Crash Rates			Severity Rate	
		Expected Crash Rate	Actual Crash Rate	Critical Crash Rate	Actual Severity Rate	Average Severity Rate
Hwy 10 from Minnesota Blvd to 45th Ave SE	167,920,988	0.7	0.55	0.81	0.88	1.1
Hwy 10 from Cty Rd 13 to Cty Rd 33	165,564,000	0.7	0.51	0.81	0.74	1.1
Cty Rd 1 from Cty Rd 29 to Cty Rd 3	7,967,950	0.6	4.39	1.11	6.02	0.9

Crash or Severity Rate ABOVE Expected or Average Rate

Crash or Severity Rate EQUAL (Not Statistically Significant) Expected or Average Rate

Crash or Severity Rate BELOW Expected or Average Rate

13.6 Security Introduction

The purpose of the transportation system only becomes magnified when a community is responding to man-made or natural disasters. For this reason the St. Cloud APO is committed to providing a secure transportation system. Providing a secure system takes the knowledge and cooperation of several organizations and governments to ensure all preparations have been taken. From the Federal government to local emergency management agencies everyone has to be included to prevent, manage, and respond to threats and disasters.

The St. Cloud APO knows to increase the security of the transportation system for motorized and non-motorized users it is essential to be prepared for and respond quickly to emergency events and natural disasters. It is the APO's intent to identify critical street and highway system assets that are essential for emergency response routes and those that are vulnerable to natural disasters. Then to identify and incorporate state and regional emergency, evacuation, and security plans into transportation plans and TIP project selection. A key everyday element is ensuring and improving incident management response times within the metropolitan area.

13.7 Local Emergency Management

In the United States system of emergency management, local governments must act first to attend to the public's emergency needs. Depending on the nature and size of the emergency, State and Federal assistance may be provided to the local jurisdiction. For this reason emergency management activities are organized in each county in the APO. These organizations are responsible for working towards hazard mitigation, preparing for, responding to and recovering from all disasters and emergencies in their county. The types of events they respond to include, but are not limited to, acts of nature such as flood, fire and severe weather, as well as industrial accidents and terrorism events. In most counties the emergency management activities are directed by a coordinator located in the law enforcement agency.

Emergency Operations Plans

All of these agencies maintain the development and updating of their county's emergency operations plans. These plans address all types of hazards, including: nuclear, hazardous materials, terrorism, weapons of mass destruction, wildfires, flooding, severe weather, and more. A jurisdiction's emergency operations plan is a document that:

- Assigns responsibility to organizations and individuals for carrying out specific actions at projected times and places in an emergency that exceeds the capability or routine responsibility of any one agency, e.g., the fire department.
- Sets forth lines of authority and organizational relationships, and shows how all actions will be coordinated.
- Describes how people and property will be protected in emergencies and disasters.
- Identifies personnel, equipment, facilities, supplies, and other resources available, within the jurisdiction or by agreement with other jurisdictions, for use during response and recovery operations.
- Identifies steps to address mitigation concerns during response and recovery activities.

Emergency Operations Centers

Similarly, all the counties maintain an emergency operations center. During a disaster, emergency management staff bring key personnel into the emergency operations center to coordinate the response and recovery from the disaster. Federal Emergency Management Agency (FEMA) considers an effective emergency operations center to consist of the combination of physical facilities, equipment, personnel, and procedures that enables the jurisdiction to apply its resources efficiently and effectively to respond

to an emergency situation. Benton County is also responsible for maintaining the Emergency Mobile Communications Trailers utilized at both programed events, such as community festivals, and emergencies.

State and National Emergency Management

The Minnesota Department of Public Safety Division of the Homeland Security and Emergency Management is responsible for preventing, preparing, responding and recovering from disaster at the State level. In the emergency management system the state of Minnesota plays three roles: assist local jurisdictions whose capabilities are overwhelmed by an emergency; respond first to certain emergencies; and work with the Federal Government when Federal assistance is necessary. Just like the counties, the State also has an Emergency Operations Plan and a State Emergency Operations Center (SEOC). The Minnesota Emergency Operations Plan (MEOP) is the framework within which local EOPs are created and through which the Federal Government becomes involved. As such, the Minnesota EOP ensures that all levels of government are able to mobilize as a unified emergency organization to safeguard the well-being of the citizens of Minnesota. The State Emergency Operations Center (SEOC) continuously monitors the needs of local jurisdictions and provides assistance when requested. In the past the EOC opened to respond to influenza outbreaks, spring flooding and severe storms.

At the national level the Department of National Security (DHS) is responsible for ensuring our homeland is safe, secure, and resilient against terrorism and other hazards. Three key concepts of security, resilience, and customs and exchange form the foundation of national homeland security strategy. Within the DHS is the Federal Emergency Management Association (FEMA) which provides advice, training and funding to the states to ensure that as a nation we work together to build, sustain and improve our capabilities for disaster preparedness, protection, response, recovery and mitigation.

13.8 Local Assets, Systems and Network

National Highway System

The highest priority roadway for the entire country is the national Highway System (NHS) due to the system's ability to connect regional centers to the rest of the country. In total, the NHS is only 4 percent of the nation's roadways but still includes over 160,000 miles, but carries more than 40 percent of all highway traffic, 75 percent of heavy truck traffic, and 90 percent of tourism traffic. Primarily constructed in the late 1950's and early 1960's, by state and local entities, for the purpose of moving the nation's military and equipment from one side of the country to the other the NHS has become one of the country's greatest economic strengths. The NHS includes:

- The Eisenhower Interstate Highways System sits at the top of the priority order due to its ability to quickly move people and goods across the country safely. Interstate 94 connecting the APO to Minneapolis and Chicago to the east and Fargo and eventually Seattle to the west is the corridor the area relies on to ensure both the economic and quality of life for residents.
- Other Principal Arterials in the NHS help connect the regional centers in State to each other and more importantly to the Interstate. In St. Cloud, the only Principal Arterial is Minnesota Highway 23.
- Another network included as part of the NHS is the Strategic Highway Network (STRAHNET) is a network of highways recognized by the Federal Government for its ability to serve the nation's strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes. United States Highway 10 acts as the area's connection to Minnesota's two military bases Camp Ripley and the Minneapolis-St. Paul Air Reserve Station.
- Intermodal Connectors provide access between major intermodal facilities and the other four

subsystems making up the National Highway System. The state of Minnesota has several connectors but none in the St. Cloud area.

The NHS system has been held fairly consistent for many years until the passage of MAP-21 in 2011. MAP-21 provided the opportunity for all Federal Functional Classification Principal Arterial roadways to be added to the NHS. This opportunity has resulted in Stearns County CASH 75 and Minnesota Highway 15 being added to the NHS system.

13.9 Local Assets and Network

As part of the 2007 St. Cloud APO Security Plan several local transportation assets were recognized. The following is a brief description and list of assets that require additional security efforts.

Bridges and Interchanges

The most vulnerable assets of the highway system are bridges and interchanges. These highway features could display the most damage from terrorist attacks and limit the movement of essential services in natural disasters. This is because they serve a high concentration of people, offer an essential or basic service for the transportation network and could be either directly or indirectly impacted by the event.

The St. Cloud area is like any community located on and around the banks of a major river and tributary bodies in that for the community to function effectively the bridges crossing these bodies of water must be protected and alternatives created. This high level of concern is primarily related to the fact river bridges are or can become choke points or areas forcing all traffic to utilize a single area or passage. The removal of a single bridge from the system could cause other area bridges to carry additional traffic volumes they may or may not be designed to carry.

Interstate interchanges can also become choke points especially if one is removed from the system for some time. Additionally, interchanges provide the opportunity for users to quickly and safely access the Interstate Highway system. Even more concerning than a bridge suffering damage is an interchange out of service because two high volume traffic patterns may be altered and redirected throughout the community.

The APO has identified the following critical highway facilities and transportation system elements in the St. Cloud metropolitan area. However this list is not comprehensive.

- Burlington Northern-Santa Fe Railway Bridge over Trunk Highway (TH) 15
- Interstate 94 & Interchanges with TH 15, 23, County Road (CR) 2 & County State Aid Highway (CSAH) 75
- TH 10 & Interchanges with TH 23, Benton Drive, Golden Spike Road, CR 29, & CR 33
- TH 15 & 23

Rail

Railroad tracks in a community can cause and be the cause of many security concerns. Most notably, rail cars could be directly impacted by a natural disaster or a terroristic plot. Secondly, as railroads have continued to look and develop company efficiencies they have expanded train lengths by adding additional cars. This has become an ever increasing issue because original train yards distances between roadway crossings were not constructed and designed for such lengths. As a result, when a train is stopped or slowed, particularly in an urban or developed area, they have become more likely to block

road crossings, preventing both passenger vehicles and more importantly emergency personal from reaching their desired location.

In addition, the Federal government has identified a system of railroads for the purpose of the defense of the United States. A select number of railroads are part of the Strategic Rail Corridor Network (STRACNET). The STRACNET consist of some 38,000 miles of rail lines important to national defense and provides service to over 170 defense installations including Camp Ripley. The Burlington Northern Santa Fe Railway (BNSF) and the Northern Lines Railway (NLR), the State's sole switching and terminal railroad operating 28 miles of track in the St. Cloud area, are on the STRACNET system.

Burlington Northern-Santa Fe (& Amtrak) Security
A subsidiary of Burlington Northern-Santa Fe (BNSF) Corporation, BNSF Railway Company operates one of the largest railroad networks in North America, with about 32,000 route miles in 28 states and two Canadian provinces. BNSF is among the world's top transporters of inter-modal traffic, moves more grain than any other American railroad, transports the components of many of the products we depend on daily, and hauls enough low sulfur coal to generate about ten percent of the electricity produced in the United States.

To increase security BNSF has developed and implemented several security measures. The most prominent program is the Resource Protection Solutions program. The Resource Protection Solutions program is composed of a Resource Protection Solutions Team; the Police and Protection Solutions; Training and Development Solutions; Load, Ride, and Claims Solutions; Special Investigations; and Administrative Solutions Teams. Teams are responsible for the protection of all BNSF resources. Physical facilities include hundreds of buildings and more than 5,000 locomotives and 190,000 freight cars. Daily freight and passenger train starts average 1,200, and 232, respectively.

Critical Rail Facilities & Transportation System Elements
The APO has identified the following critical rail facilities and transportation system elements in the St. Cloud metropolitan area.

- Burlington Northern Santa Fe Railway Bridge over State Highway 15.
- Burlington Northern-Santa Fe Railway & Rail Yard.

Airport
Together, the City of St. Cloud and the Federal Aviation Administration are responsible for providing security to the St. Cloud Regional Airport and its users. For added security, the airport has increased security measures at the airport that include monitored surveillance of airport property by airport security, video surveillance cameras, fenced grounds, and luggage and passenger screening by Transportation Security Administration (TSA) personnel.

Also part of the airports safety and security measures is the Aircraft Rescue & Fire Fighting unit. Aircraft Rescue and Fire Fighting (ARFF) is charged with serving and protecting the aviation users of the St. Cloud Regional Airport. Located on-airport and staffed full-time, ARFF is available 24 hours a day, 365 days a year. St. Cloud Regional ARFF is classified as Index A ARFF, thus being equipped for aircraft up to 90 feet in length. Larger aircraft requirements will be met with prior arrangements with the airport administration.

The St. Cloud Regional Airport is the only major airport of security concern.

Other

In addition to critical transportation facilities and infrastructure, this Plan identifies other facilities in the St. Cloud metropolitan area that would impact mass populations if emergency situations occur.

Examples of other identified facilities include:

- Crossroads Shopping Mall
- Hospitals & Clinics
  - Abbott Northwestern Clinics
  - CentraCare Clinics
  - St. Cloud Hospital
  - St. Cloud Medical Group Clinics
  - Veterans Administration Hospital
- Jurisdictional Governmental Buildings
  - City of St. Cloud
  - City of St. Joseph
  - City of Sartell
  - City of Sauk Rapids
  - City of Waite Park
  - Minnesota Department of Transportation, District 3: St. Cloud office
  - Benton, Sherburne, & Stearns County
- Metropolitan Athletic Complex (MAC)
- Power Plants
  - Excel's Sherburne County Coal Operated Power Plant
  - Monticello Nuclear Power Plant
- Schools & Universities
  - Sartell High School
  - Sauk Rapids High School
  - St. Cloud Apollo High School
  - St. Cloud Tech High School
  - St. Cloud State University
- Utilities
  - Pipelines
  - Transmission Sites
  - Water Treatment Plants

14.1 Air Quality

The Clean Air Act Amendments of 1990 (CAAA) represented a major revision to the Nation's air quality regulations. Metropolitan Planning Organizations (MPOs) are required to make an affirmative determination of "conformity" to State or Federal Implementation Plans of Transportation Plans, Programs and Projects Developed, Funded, or Approved under Title 23 U.S.C. or the Federal Transit Law.

Carbon Monoxide

Carbon Monoxide is a colorless, odorless gas that is produced when carbon based fuels such as gasoline, are not burned completely. Therefore, high concentrations of CO tend to occur along congested roadsides and at major intersections while automobiles, trucks and buses are idling. In an attempt to reduce congestion on the system, the Plan proposes a balanced multi-modal approach to funding transportation projects with its local federal funding forecast (see Financial Forecast chapter).

CO Standards

The U.S. EPA sets the National Ambient Air Quality Standards (NAAQS) to protect the general welfare and health of the public. Primary standards are designed to protect against adverse health effects, while secondary standards protect against welfare effects, such as damage to crops, buildings, etc. In Minnesota, an area is considered in violation if it exceeds the designated concentration level within a given timeframe. CO has both a one-hour standard of 9 parts per million (ppm) and an eight-hour standard of 30 ppm (35 ppm is the federal standard). Areas that do not meet the NAAQS are designated as "nonattainment".

The last CO violation of the 8-hour standard in St. Cloud occurred in February 1985 and by 1993 the EPA re-designated the City to "attainment" status and was classified as a "maintenance" area for CO. In 1993 CO levels monitored in downtown St. Cloud were 5.0ppm. After being designated as nonattainment for CO, the City of St. Cloud developed a Transportation Control Plan (TCP) identifying alternative strategies for the reduction of carbon monoxide concentrations. The TCP contained Transportation Control Measures (TCM) to obtain and maintain ambient air quality standards for CO.

To verify attainment status for the City, over the duration of the 20-year maintenance period, a continuous air quality monitor was installed. The monitor, symbolized by a star on Figure 14-1, is mounted on the north side of St. Cloud's City Hall, located near the intersection of trunk highway 23 (Division Street) and 4th Avenue. The MPCA had monitored this network in accordance with 40 CFR Part 58.

Figure 14-1: St. Cloud CO Maintenance Area (1993-2013)

In August, 2013, the city of St. Cloud's 20-year maintenance area designation expired. Thus, air quality conformity analysis is no longer a required component of the APO's Plan.

Long-Range Plan

This Plan, serving as the APO's 20-Year Transportation Plan, contains transportation improvements recommended for the surrounding urbanized areas from a multi-modal perspective encompassing capacity, transit, bicycle, pedestrian, safety, operations, preservation and freight needs. This plan uses a multi-modal approach to improve air quality in the St. Cloud Metropolitan Area. More funding for bicycle, pedestrian and transit projects means more facilities and services to address roadway congestion, thus reducing air quality issues.

Implementation of the 2040 financially constrained expansion projects will assist in reducing congestion and the environmental impacts congestion causes. It is important to note that other system improvements, such as signal timing, intersection geometrics, etc. also play a role in the flow of traffic, and the ultimate affects on air quality. These types of safety/operational improvements are eligible to compete for the annual District 3 local Highway Safety Improvement Program (HSIP) safety set-a-side, as well as the APO's annual local federal funding in this Plan.

14.2 Environmental Justice Overview

In 1994, President Clinton signed Executive Order 12898: "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The Executive Order required that each Federal agency, to the greatest extent allowed by law, administer and implement its programs, policies, and activities that affect human health or the environment so as to identify and avoid "disproportionately high and adverse" effects on minority or low-income populations. In order to clarify and expand upon Executive Order 12898 for purposes of federally funded transportation activities, the United States Department of Transportation (USDOT) issued an *Order to Address Environmental Justice in Minority Populations and Low-Income Populations*. The USDOT addressed persons belonging to any of the following groups: Black, Hispanic, Asian American, American Indian and Alaskan Native, Native Hawaiian or other Pacific Islander, and Low-Income.

According to the USDOT, there are three core principles of Environmental Justice:

- To avoid, minimize, or mitigate disproportionately high and adverse human health or environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in or significant delay in the receipt of benefits by minority populations and low-income populations.

Figure 14-2: Environmental Justice definition

What is Environmental Justice (EJ)?

The confluence of social and environmental movements, which deals with the inequitable impact on groups such as racial minorities, low-income, elderly, women, or children populations

- The U.S. EPA defines EJ as the "fair treatment for people of all races, cultures, and incomes, regarding the development of environmental laws, regulations, and policies."
- Over the last decade, attention to the impact of environmental pollution on particular segments of our society has been steadily growing.

Low-Income – a person whose household income (or in the case of a community or group, whose median household income) is at or below the US Department of Health and Human Services poverty guidelines.

US Department of Transportation: An Overview of Transportation and Environmental Justice
Minority group definitions

Black – a person having origins in any of the black racial groups of Africa.
Hispanic – a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
Asian – a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian Subcontinent.
American Indian and Alaskan Native – a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.
Native Hawaiian or Other Pacific Islander – a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

14.3 MPO Responsibility

As the primary forum for the cooperative development of regional transportation plans, Metropolitan Planning Organizations (MPO) are required to be in compliance with Title VI and incorporate EJ concerns. As such the APO adopted a Title VI and Non-Discrimination Plan/Limited English Proficiency Plan. The Policy Statement reads as follows:

"The St. Cloud Area Planning Organization (APO), hereinafter referred to as the "Recipient", is committed to compliance with Title VI of the Civil Right Act of 1964, the Civil Rights Restoration Act of 1987, and all related regulations and statutes. The Recipient assures that no person or group(s) of persons shall, on the grounds of race, color, national origin, sex, age, disability/handicap, and income status, to be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any and all programs, services, or activities administered by the Recipient, regardless of whether those programs and activities are federally funded or not".

MPO responsibilities include:

- Identify low-income and minority populations so needs can be identified and addressed, and the benefits as well as the burdens of transportation investments can be fairly distributed throughout the planning area.
- Enhance existing analyses processes to ensure that the Long Range Plan and TIP comply with Title VI requirements.
- Evaluate the existing public involvement processes and improve if necessary to include minority and low-income populations in the decision making process.

14.4 Methodology

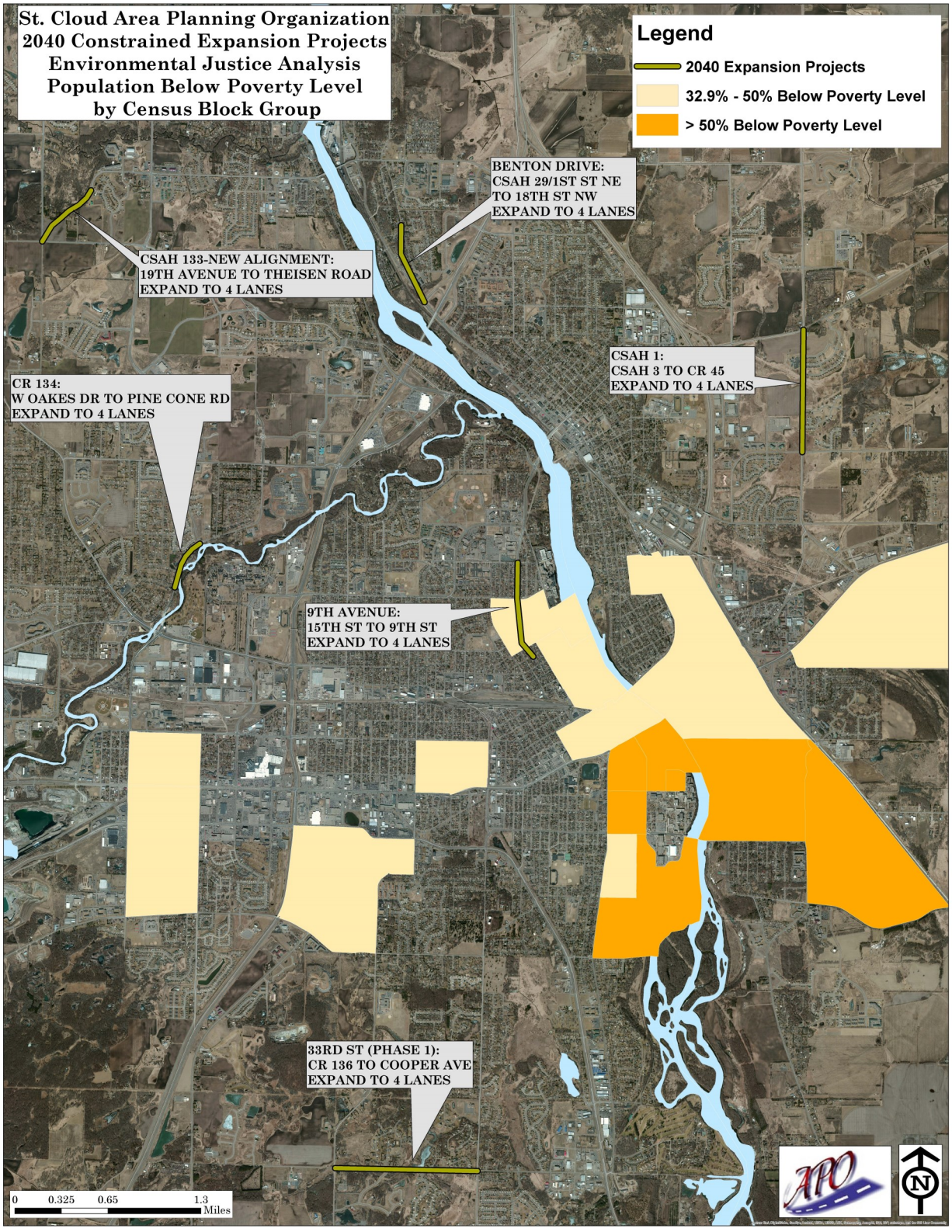
In order to identify concentrations of low-income and minority populations, data on race/ethnicity, median household income, and poverty were examined for census block groups within the metro. This data was compared with data on race/ethnicity, median household income, and poverty for the entire metropolitan planning area. The methodology utilized to meet these responsibilities and requirements entailed mapping census block group areas where low-income (poverty) and minority population concentrations exceeded the population averages for the APO planning area. For purposes of this analysis, the metropolitan planning area was defined as the aggregate of the census blocks identified within or partially within the study area. Following the USDOT 2000 clarifications, minority and low-income populations were assessed separately. The first step to determine areas of potential impact involved creating thresholds equal to the percentages of each variable for the whole planning area. The planning area is equal to the sum of the block groups identified within, or partially within the metropolitan planning area. The thresholds would then equal the total number exhibiting the characteristic of concern divided by the total.

- Population within or partially within the planning area who are a race/ethnicity other than "white non-Hispanic" (11,329) divided by the total population of the planning area (130,225) equals 8.7 percent.

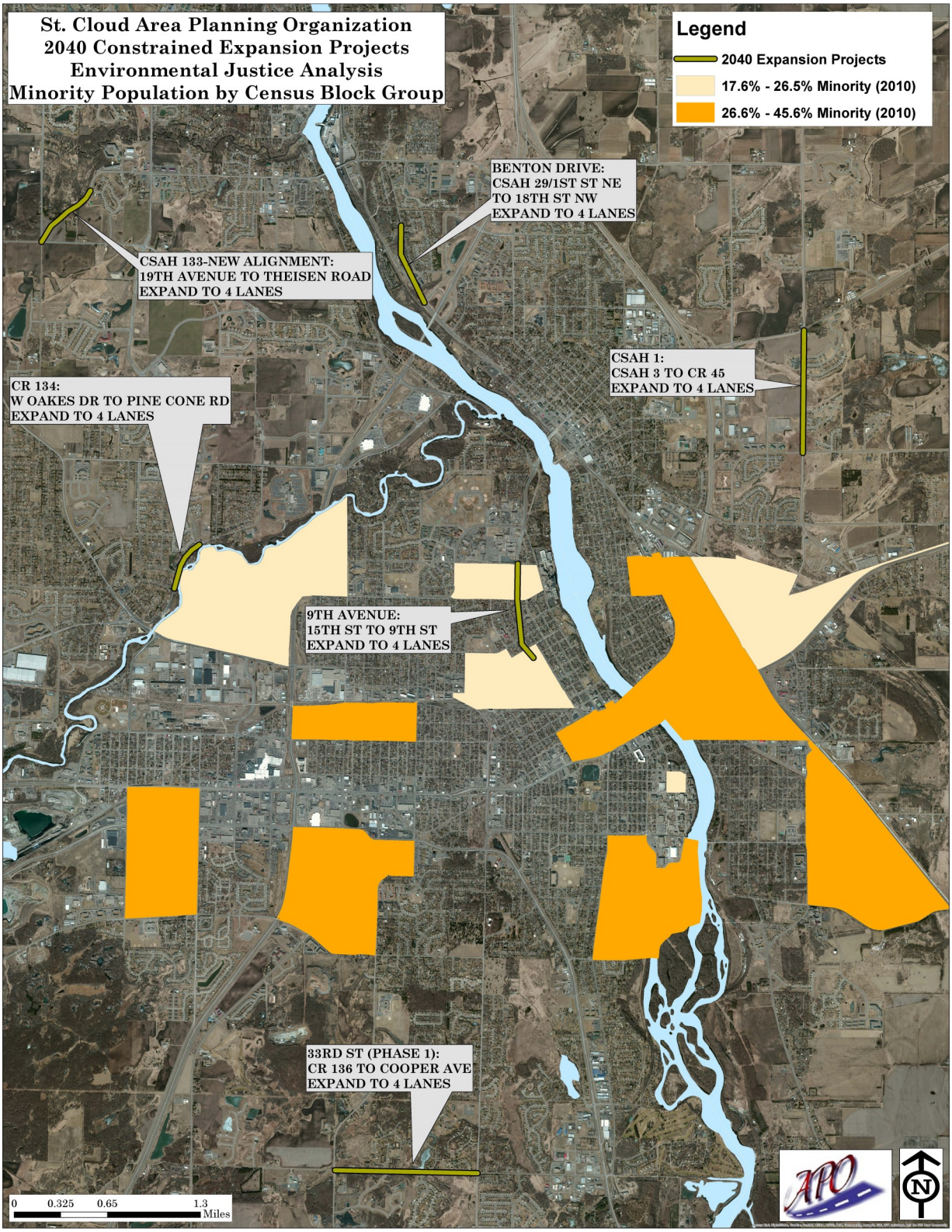
- Population within the planning area living below poverty (20,450) divided by the total population (130,225) equals 15.7 percent.

The 2040 Plan Fiscally Constrained Expansion Project list was overlaid on the population map and the potential impacts were visually analyzed. The following pages include project maps illustrating the process. Listed next to each project on the maps are project identification numbers. The project number coincides with the tables following the maps. The tables also indicate whether a project does not have a negative impact on an environmental justice area. Those projects that are located within, along or bordering a environmental justice area deserve special consideration.

Map 14-1: 2040 Constrained Expansion Projects- Environmental Justice Analysis (Population Below Poverty Level by Census Block Group)



Map 14-2: 2040 Constrained Expansion Projects- Environmental Justice Analysis (High Minority Population by Census Block Group)



14.5 Environmental Justice Analysis

A project was defined as having the potential to have an adverse effect on the environmental justice of an area if any portion of a project intersected with the defined boundaries of a Census block group with a high percentage of minority population or a block group with a high percentage of population below poverty level. Nine project numbers representing seven projects intersect with block groups with a high percentage of minority population, and six project numbers (five projects) intersect with block groups with a high percentage of population below poverty level. The projects identified in the table below include one bicycle and pedestrian project (identified with two AC payback items), one safety project, four resurfacing projects, and one mobility project (identified by two project numbers). The mobility project is part roadway resurfacing and part safety project with the addition of a turn lane at an intersection. Overall, projects in Environmental Justice areas focus on safety and preservation of the roadway system. These projects are not expected to have adverse impacts on the block group population areas identified. Projects in the TIP using federal funding with an adverse impact on an Environmental Justice area will need to identify and mitigate any adverse impacts from these projects. Mitigation of impacts will take place through the project development and implementation phases of the projects. During the construction phase, adverse impacts may occur due to delays, detours, noise, or dust. Once complete, however, projects in the TIP result in positive benefits such as increased capacity, lower commute times, increased safety, and the addition of bicycle and pedestrian facilities to neighborhoods.

Figure 14-3: St. Cloud APO Constrained Expansion List-Environmental Justice Analysis

Project ID #	Jurisdiction	Location	From	To	Improvement	Avg. Const. Cost in Millions (2020-2040)	High % of Minority Population Affected	High % of Population Below Poverty Level Affected
1	Stearns County	CR 134	W Oakes Dr.	Pinecone Rd.	Expand to 4-Lanes	$4.17	-	
2	City of St. Cloud	9th Ave.	15th St.	9th St.	Expand to 4-Lanes	$4.17	X	X
3	Benton County	CSAH 1 (Mayhew Lake Rd.)	CSAH 3 (Golden Spike Rd)	CR 45 (15th St. NE)	Expand to 4-Lanes	$6.09	-	
4	City of St. Cloud	33rd St. (Phase 1)	CR 136	Cooper Rd.	Expand to 4-Lanes	$4.17	-	
5	Stearns County	CSAH 133-New Alignment	19th Ave.	Theisen Rd.	Expand to 4-Lanes	$4.17	-	
6	Benton County	Benton Dr.	CSAH 29/1st St. NE	18th St. NW	Expand to 4-Lanes	$4.35	-	

14.6 St. Cloud Area Demographic Summary

Figure 14-4: APO Jurisdictional Poverty Rates (2000 vs. 2010)

	2000 Poverty	Poverty %	2010 Poverty	Poverty %
Brockway Township	89	3.5%	259	9.6%
Haven Township	47	2.3%	83	4.2%
LeSauk Township	26	1.4%	34	1.9%
Minden Township	72	4.0%	128	7.7%
Rockville*	35	2.0%	144	5.9%
Sartell	318	3.3%	699	4.4%
Sauk Rapids	521	5.1%	984	7.7%
Sauk Rapids Township	18	2.5%	13	2.2%
St. Augusta	101	3.3%	166	5.0%
St. Cloud	8748	14.8%	14749	22.4%
St. Joseph	1147	24.5%	549	8.4%
St. Joseph Township	154	6.3%	185	9.6%
St. Stephen	25	2.9%	23	2.7%
St. Wendel Township	51	2.2%	52	2.4%
Waite Park	644	9.8%	1182	17.6%
Watab Township	126	4.3%	238	7.7%
APO Planning Area Total	**12121**	**10.8%**	**19486**	**15.0%**

Figure 14-5: APO Jurisdictions Minority Percentage of Population (2000 vs. 2010)

	2000	% Minority	2010	%Minority
Brockway Township	20	0.8%	88	3.3%
Haven Township	48	2.4%	47	2.4%
LeSauk Township	55	2.9%	108	6.1%
Minden Township	25	1.4%	35	2.1%
Rockville*	21	1.2%	254	10.4%
Sartell	308	3.2%	843	5.3%
Sauk Rapids	870	7.0%	795	6.2%
Sauk Rapids Township	14	1.9%	18	3.1%
St. Augusta	48	1.6%	97	2.9%
St. Cloud	5250	8.9%	10988	16.7%
St. Joseph	190	4.1%	366	5.9%
St. Joseph Township	219	8.9%	298	15.5%
St. Stephen	17	2.0%	14	1.6%
St. Wendel Township	34	1.5%	29	1.3%
Waite Park	521	7.9%	748	11.1%
Watab Township	44	1.5%	93	3.0%
APO Planning Area Total	**7684**	**6.8%**	**14821**	**11.4%**

14.7 APO EJ Summary

Environmental justice and Title VI are not new concerns. Today, because of the greater evolution of the transportation planning process, there is a greater emphasis. The APO develops transportation programs and plans to meet the needs of the St. Cloud Metro Area. The APO identifies minority and low-income populations so needs can be addressed, and the burdens of transportation investments can be fairly distributed. The 2040 transportation projects as proposed, would cause short-term impacts, however, these impacts would be no greater than those experienced by non-low income and non-minority members of the general population. Given the needs for the area, the implementation of the proposed projects would not represent a significant change and thus not significantly affect minority and low-income populations.

14.8 Environmental Mitigation

The purpose of this element is to document potential environmental impacts of proposed projects early during the planning process, more specifically during the planning horizon of the 20-year Transportation Plan. Activities described in this section were based on results of a comprehensive evaluation of available conservation plans, maps and inventories in consultation with federal, state, and other land management and regulatory agencies. A discussion of these activities has been included for compliance with MAP-21 provisions and Federal Highway Administration (FHWA) statutes and regulations [23 USC 134/49; USC 5303(i)(2)(B) and 23 USC 135/49; USC 5304(f)(4)]. It is critical to involve local, state and federal environmental agencies and stakeholders early in the planning process to document potential environmental impacts of proposed transportation improvements before projects are carried through the federal environmental documentation process (National Environmental Policy Act – NEPA).

Furthermore the APO adopted a series of strategies beginning in 1977 in response to Transportation Control Measures (TCM) to be compliant with the State Implementation Plan (SIP). These strategies which are still in practice at the APO are described in Figure 14-6.

Figure 14-6: TCM Implementation Strategies & Status

TCM Implementation Strategies & Status		
Item #	Strategy	Status
1	Signing change: no parking 3-6 p.m. for 4 stalls to corner on north side of street to allow right turns from West St. Germain to 10th Avenue.	Implemented 1977 by City of St. Cloud
2	Signing change: no-right-turn-on-red removed for eastbound traffic on West St. Germain at corner of 8th Avenue.	Implemented 1977 by City of St. Cloud
3	Bus stop relocated from near Paramount Theatre (formerly St. Germain Hotel) to US Bank (formerly Tempo store) on block West.	Implemented 1977 by City of St. Cloud
4	Change in signal timing and roadway geometry, which included widening 10th Avenue and providing left turn lane for both northbound and southbound traffic.	Implemented 1977 by City of St. Cloud
5	Signal changes at West St. Germain and 10th Avenue.	Implemented 1978 by City of St. Cloud
6	Transit, car-pool and van-pool strategies.	Goals set in 1979 by St. Cloud APO
7	Continuing, comprehensive route evaluation will be pursued. Route performance will be based upon comparison with established standards. Strategies of improvement will be developed for non-conforming routes.	On-going Program initiated by MTC in 1979
8	A continuing evaluation of transit fares throughout the system will be accomplished under the TSM document.	On-going Program initiated by MTC in 1979
9	The program for transportation of handicapped and elderly persons will be evaluated continuously, and service improvement strategies will be developed based on the evaluation analysis.	On-going Program initiated by MTC in 1979
10	An improved transit informational program will be investigated and evaluated as part of the annual TSM.	On-going Program initiated by MTC in 1979
11	Conduct feasibility study regarding use of plugs-ins to reduce cold starts	In 1980 deemed not feasible
12	Review and redevelop downtown traffic plan.	On-going
13	Implementation of transportation system management strategies and physical improvements, as needed to achieve compliance with 1982 air quality standards and complying with conclusions of the feasibility study and plans developed by items 11 and 12.	On-going
14	Ordinance prohibiting double parking on West St. Germain Street from 8th Avenue to 10th Avenue.	Implemented 1981 by City of St. Cloud
15	Downtown signing plan to discourage use of West St. Germain corridor between 8th Avenue to 10th Avenue.	Implemented 1981 by City of St. Cloud
16	Media campaign and pamphlet to increase public awareness of air quality and to encourage use of transportation routes and means, which will improve air quality in the City.	Implemented 1982 by City of St. Cloud
17	Division Street improvements between 19½ Avenue and 31st Avenue (new signals and left turn lanes).	Implemented 1982 by City of St. Cloud
18	Improve signalization at Wilson Avenue and East St. Germain.	Implemented 1982 by City of St. Cloud
19	10th Avenue intersection improvements.	Implemented 1984 by City of St. Cloud

Interagency Consultation

Interagency consultation occurs throughout development of the Plan between representatives of MnDOT, MPCA, St. Cloud Metro Bus, FTA, FHWA and other agencies. Projects are developed through committees with specific recommendations forwarded to implementing agencies. Committees include the APO Technical Advisory Committee (TAC), APO Executive Board, and APO Policy Board. The APO TAC is comprised of engineers and planners from member jurisdictions, including St. Cloud Metro Bus and MnDOT D3 staff. The APO Policy Board includes St. Cloud Metro Bus representation. Ad hoc committees include a cross section of policy and technical staff with an interest in the respective project.

As part of the Planning process, the APO's Public Participation Plan (PPP) guides public involvement activities to coincide with project environmental mitigation activities. The PPP procedures state:

> "Identify, review, incorporate, and coordinate environmental issues and concerns from other local, state and federal agency Plans to develop a specific public participation program that takes into account and addresses (possible) environmental mitigation activities and incorporates the level of participation needed for planning related activities."

When performing planning activities such as updating and developing the Plan, the Transportation Improvement Program (TIP), Transportation System Management (TSM) Plan, corridor and other planning studies, APO will consult early with a variety of agencies on environmental mitigation activities. Greater detail on this process is included in the Public Input Appendix A within the Plan. The APO consults with the following additional agencies on environmental mitigation activities:

- Environmental Quality Board
- Minnesota Department of Agriculture
- Minnesota Department of Natural Resources
- Minnesota Department of Health
- Minnesota Pollution Control Agency
- Sauk River Watershed District
- Soils Conservation Districts (Board of Water & Soil Resources)
- U.S. Fish and Wildlife Service
- U.S. Army Corp. of Engineers
- U.S. Environmental Protection Agency
- U.S. National Park Service (currently does not apply)

Potential Mitigation Activities

Projects are continually refined through the planning and project development process to minimize environmental impacts. That process starts with the development of the 2040 Plan and projects selected through Plan analysis. The APO identifies and solicits all potential stakeholders for public participation, including those that have a vested environmental interest in planning activities. Environmental stakeholders are identified at the beginning of the planning process so their input can be included as part of the decision-making process. Involving local, state, regional, and federal environmental stakeholders early allows for the sharing of key information and initiates the avoiding, minimizing and mitigating process. The APO utilizes a Geographic Information Systems (GIS) as a valuable data

analysis and data sharing tool to improve transportation analyses of environmental impacts. In future Plan updates, the APO will explore additional resources for improving the decision-making process where planning activities have the potential to affect the environment.
Resources, as recommended by FHWA, include:

- Eco-logical
- Green Infrastructure
- Planning and Environmental Linkages (PEL)

Eco-Logical is a document agreed on by eight federal agencies that encourages ecosystem-based planning and greater flexibility in the regulatory processes. It is essentially a "permission document," providing a framework for doing business in a new way.
Green Infrastructure is an approach to planning and implementing interconnected "green-space" systems (such as protected lands, parks, and trails) with existing and planned "gray" infrastructure (such as roads and buildings). Green Infrastructure can provide geographic resource information and conservation priorities that can be used as input in the transportation planning process.
The PEL is an approach to transportation decision-making that considers environmental, community, and economic goals early in the planning stage and carries them through project development, design, and construction. The PEL website includes implementation resources, information on Linking Planning and NEPA Workshops, and links to related integration resources (FHWA, 2007).

The St. Cloud Area Sustainability Committee
The Committee serves as an information source for cities, counties, and a variety of business and resident perspectives. The creation of the Sustainability Committee under the umbrella of the St. Cloud Area Joint Planning District is an indication of the broad support for making a global difference through coordinated sustainability initiatives in the St. Cloud region and all of greater Minnesota. The mission of the Sustainability Committee is to coordinate the actions of organizations and agencies, while serving as an information clearinghouse for sustainability initiatives in homes, neighborhoods, and organizations throughout the region.

Minnesota Green Step Cities
Additionally the APO is consulting with other agencies to advance more sustainable infrastructure. In 2012, the APO invited Philip Muessig, Director of Minnesota Green Step Cities to present partnership opportunities for APO member jurisdictions with their program. During fall 2007, the idea was raised of creating a sustainable cities program throughout the State of Minnesota, free to cities, that would challenge, assist and recognize cities that were "green stars." This idea was taken up by the 2008 Legislature, which directed the MPCA, the Division of Energy Resources at the Minnesota Department of Commerce, and CERTs to recommend actions cities could take on a voluntary basis. Currently there are 3 APO member cities which are also 'Green Step" cities: St. Cloud, Sartell and Sauk Rapids.

14.9 NEPA (Project Development) Documentation Focus

Once approved, environmental studies for all projects included in this Plan must be conducted consistent with State and Federal regulatory requirements. During these processes, project purpose and need must be verified and all reasonable alternatives must be considered, including a no-build alternative.

Chapter 14: Environmental Analysis

Depending upon project scope, social, economic, environmental and transportation aspects of proposed projects must be evaluated within the context of an Environmental Impact Statement (EIS), an Environmental Assessment (EA), or a Categorical Exclusion (CE)/Project Memorandum (PM). Air Quality and Environmental Justice, discussed earlier in this Chapter, must also be evaluated during these processes. NEPA requires that Federal agencies disclose the results of their analysis and the effects of project implementation on the environment and solicit comments on the proposals from interested and affected parties.

The purpose of documenting the NEPA process provides for complete disclosure to the public; allows others an opportunity to provide input and comment on proposals, alternatives, and environmental impacts; and provides the appropriate information for the decision maker to make an informed choice among alternatives. The process, as described from NEPA in Section 102(2) is summarized below:

Agencies of the Federal Government shall:

- Utilize a systematic, interdisciplinary approach in planning and in decision making which may have an impact on man's environment.
- Include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on:
  - ◊ Environmental impact of the proposed action.
  - ◊ Adverse, unavoidable environmental effects.
  - ◊ Alternatives to the proposed action.
  - ◊ Relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity.
  - ◊ Any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.
- Prior to making any detailed statement, the responsible Federal official shall consult with and obtain the comments of any Federal agency which has jurisdiction by law or special expertise.
- Make them available to the public.

Transportation projects vary in type, size and complexity, and potential to affect the environment. Transportation project effects can vary from very minor to significant impacts on the human environment. To account for the variability of project impacts, three basic "classes of action" are allowed and determine how compliance with NEPA is carried out and documented:

- An EIS is prepared for projects where it is known that the action will have a significant effect on the environment.
- An EA is prepared for actions in which the significance of the environmental impact is not clearly established. Should environmental analysis and interagency review during the EA process find a project to have no significant impacts on the quality of the environment, a Finding of No Significant Impact (FONSI) is issued.
- A CE/PM is issued for actions that do not individually or cumulatively have a significant effect on the environment.

14.10 Environmental Impact Statement

An EIS is a full disclosure document that details the process through which a transportation project was developed, includes consideration of a range of reasonable alternatives, analyzes the potential impacts resulting from the alternatives, and demonstrates compliance with other applicable environmental laws and executive orders. The EIS process is completed in the following ordered steps: Notice of Intent (NOI), draft EIS, final EIS, and record of decision (ROD). The following are the major EIS sections.

- Purpose and Need
- Alternatives
  - ◊ Alternatives should meet the need for the project and avoid or minimized environmental harm.
- Affected Environment
  - ◊ The affected environment should discuss, commensurate with the importance of the potential impacts, the existing social, economic, and environmental settings surrounding the project.
- Environmental Consequences
  - ◊ This section should describe in detail both the impacts of the proposed action and the potential measures that could be taken to mitigate these impacts.
- Comments and Coordination
- List of Preparers
- Record Of Decision (ROD)

14.11 Environmental Assessment

When the significance of impacts of a transportation project proposal are uncertain, or it does not meet specified thresholds for an EIS, an EA is prepared to assist in making this determination. If it is found that significant impacts will result, an EIS needs to be completed. FHWA must approve an EA before it is made available to the public. EAs must be made available to the public through notices of availability in local, state, or regional clearinghouses, newspapers and other means. After public comments are received and considered, a determination of the significance of the impacts is made.

14.12 Categorical Exclusions/Project Memorandum

CEs/PMs are actions which meet the definition contained in 40 CFR 1508.4 and do not involve significant environmental impacts. They are actions that do not induce significant impacts to planned growth or land use for the area, do not require the relocation of significant numbers of people; do not have a significant impact on any natural, cultural, recreational, historic or other resource; do not involve significant air, noise, or water quality impacts; do not have significant impacts on travel patterns; and do not otherwise, either individually or cumulatively, have any significant environmental impacts, therefore, there are no associated mitigation activities.

14.13 Comparison of Conservation Plans, Maps and Inventories

To help minimize environmental impacts, the APO maintains a computerized Geographic Information System (GIS) inventory of all environmentally sensitive areas in the Metropolitan Area. This data was used when Plan alternatives are developed and evaluated. The data was reviewed and collected from State conservation plans, maps and inventories.

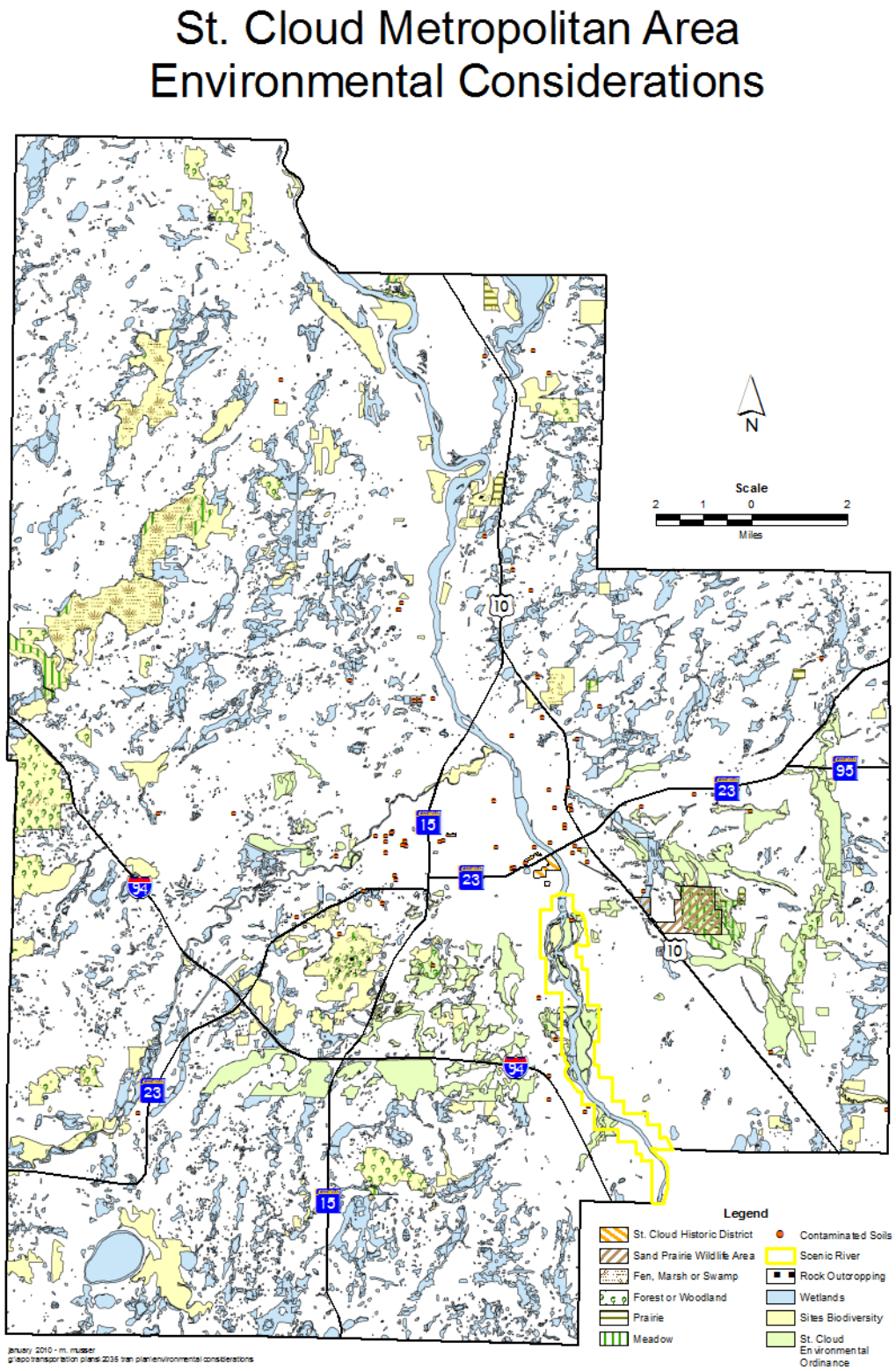
The following features are included on MAP 14-3: Environmental Considerations
Inventoried (GIS) data includes:

- Areas/Points of Botanical Interest
- Areas/Points of Ecological Interest
- Contaminated Groundwater Sites and Soils Locations
    - ◊ Federal & State Superfund Locations
    - ◊ Leaking Underground Storage Tanks (LUSTs)
    - ◊ Minnesota Landfill Cleanup Program Sites
    - ◊ Resource Conservation & Recovery Act (RCRA) Locations
- FEMA Floodplains (Q3)
- Minnesota County Biological Survey (MCBS) Native Plant Communities
    - ◊ Fen, Marsh or Swamp Areas
    - ◊ Forest or Woodlands
    - ◊ Meadowlands
    - ◊ Prairie Areas
- Historic Districts
- Hydrology
- NWI Wetlands
- Prairie Areas
- Rock Outcroppings
- MCBS Sites of Biodiversity Significance
    - ◊ High Quality Native Plant Communities
    - ◊ Rare Plants
    - ◊ Rare Animals
    - ◊ Animal Aggregations
- St. Cloud Environmental Ordinance
- Wild & Scenic River Boundary

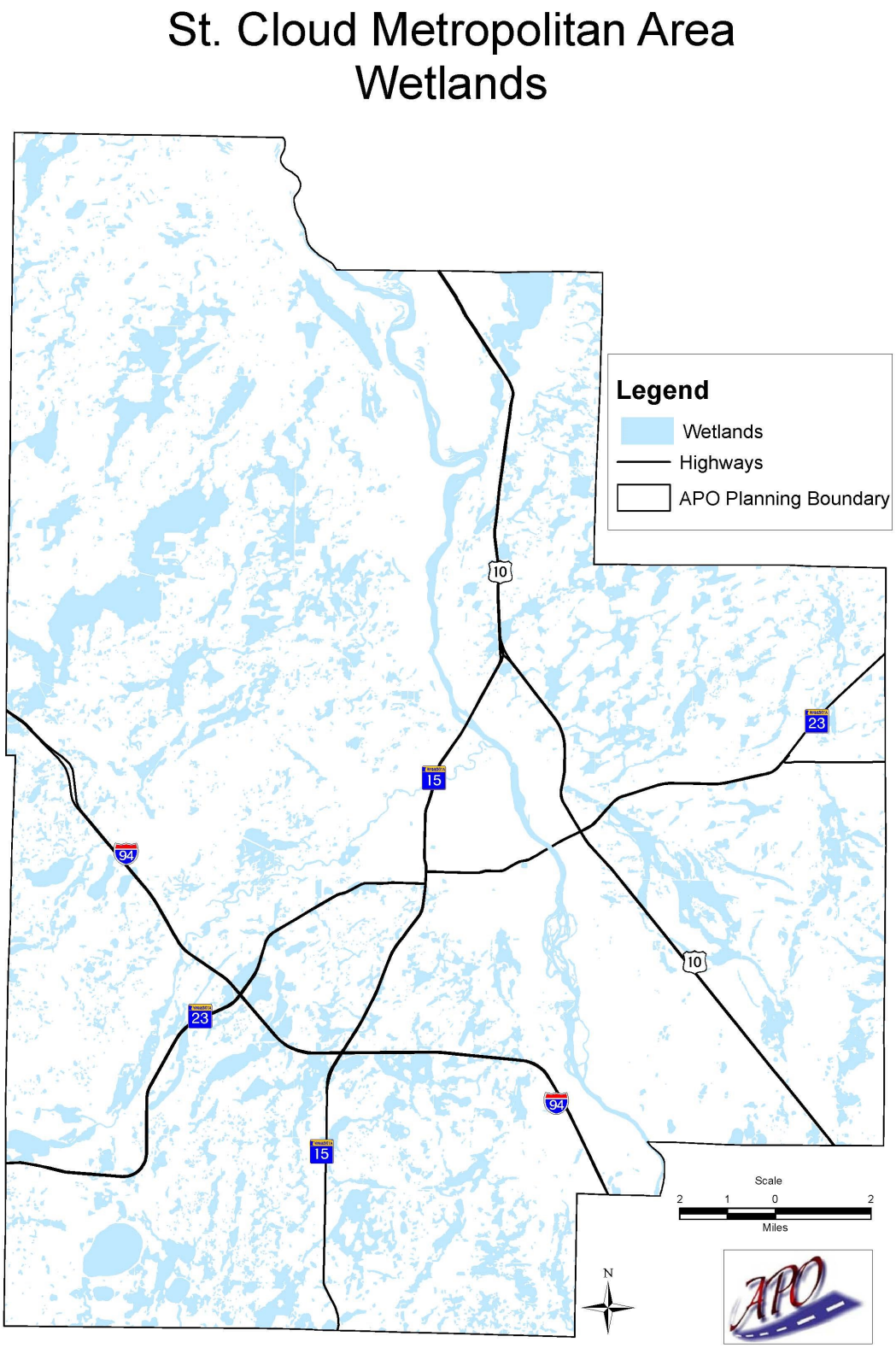
All of the data sets, except the St. Cloud Environmental Ordinance, were collected from the Minnesota Department of Natural Resources (MnDNR). The MnDNR, as the State's environmental managing agency, collects, oversees and regulates inventoried GIS data from other local, state and federal agencies including the Army Corp. of Engineers, Environmental Protection Agency (EPA), Federal Emergency Management Agency (FEMA), Minnesota Pollution Control Agency (MPCA), Minnesota Historical Society (SHPO), Fish and Wildlife Service (FWS), etc. Some of this data is available for download from an interactive, web based GIS platform (ArcIMS) at http://deli.dnr.state.mn.us/. Each downloadable data set has accompanying metadata that explains detailed identification information such as: publication date, title, description, purpose, cross reference information, etc.

The following 3 pages include Map 14-3: APO Environmental Considerations-which is a summary of all of the most sensitive environmental features the APO considers in the Planning process.
Map 14-4: Wetlands-features all of the DNR Wetlands files.
Map 14-5: Flood Plains-Contains the '100 year' FEMA Flood Plains within the APO boundary.

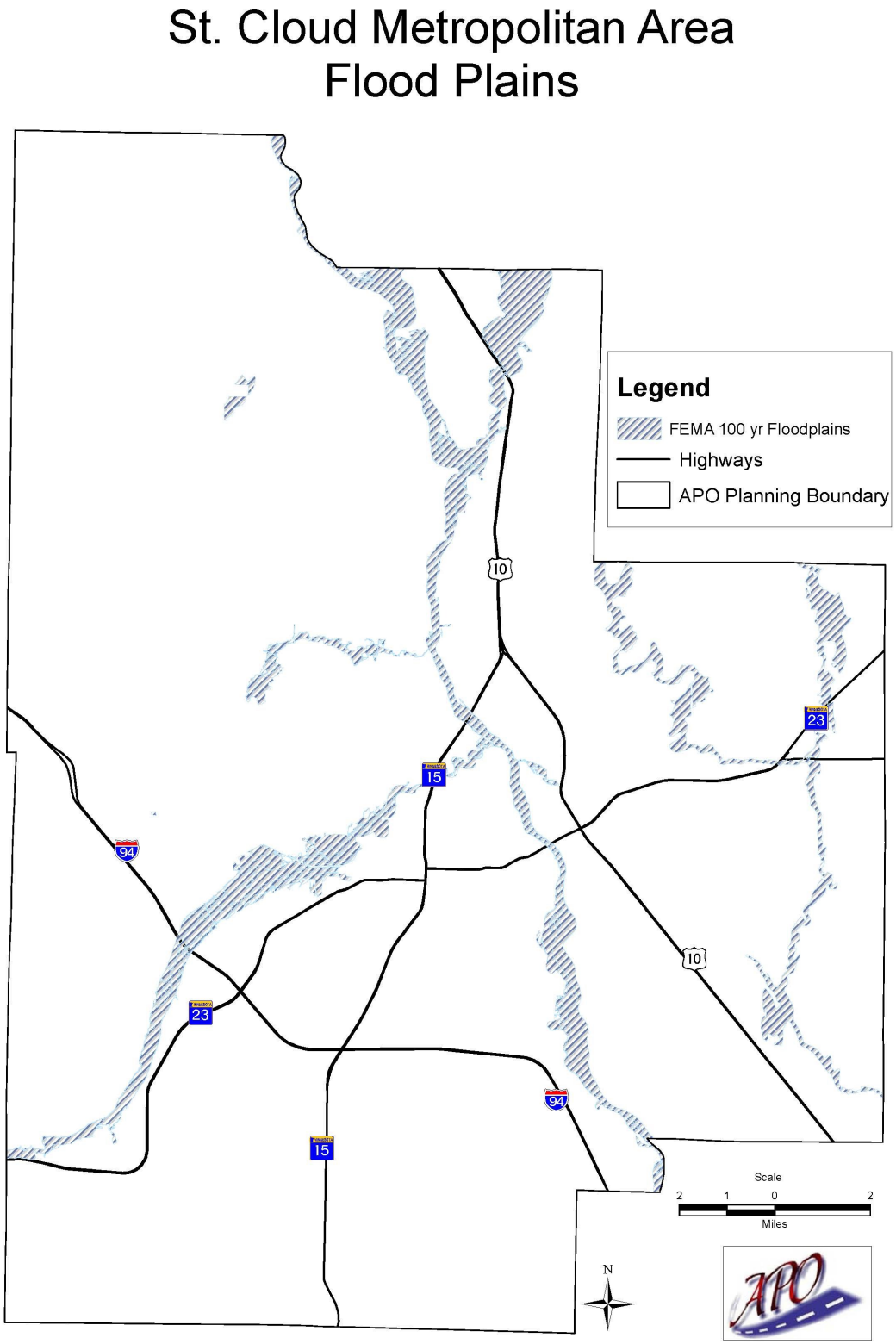
Map 14-3: St. Cloud APO Environmental Considerations (2010)



Map 14-4: St. Cloud Metropolitan Area Wetlands (2014)



Map 14-5 St. Cloud Metropolitan Area Flood Plains(2014)



15.1 Financial Constraint Requirements

Federal planning regulations pertaining to fiscal restraint require MPOs to answer the following basic question regarding their Plan: "Will the revenues (federal, state, local, and private) identified in the Plan cover the anticipated costs of the projects included in this plan, along with operation and maintenance of the existing system?". If the projected revenues are sufficient to cover the costs, and the estimates of both revenues and costs are reasonable, then the fiscal constraint requirement is satisfied.

The purpose of fiscal constraint requirements is to ensure that long range planning of transportation projects is meaningful, based on realistic assumptions regarding the funding of all capital, operating and maintenance costs associated with the surface transportation system. If a Plan or program is developed without regard to realistic funding, then it is unreliable. Incorporation of fiscal constraint also highlights public participation through coordination with APO member agencies.

Limited funding, as identified in this chapter, highlights the need for identifying priorities for resource allocation. Projects in the fiscally constrained expansion project list (see Roadway chapter) are identified with resources that are reasonably expected to be available from 2020-2040. This chapter outlines the development process for the financial forecast and defines the estimated dollar amounts by funding target category for the planning horizon.

15.2 2035 Plan versus 2040 Plan Financial Forecast

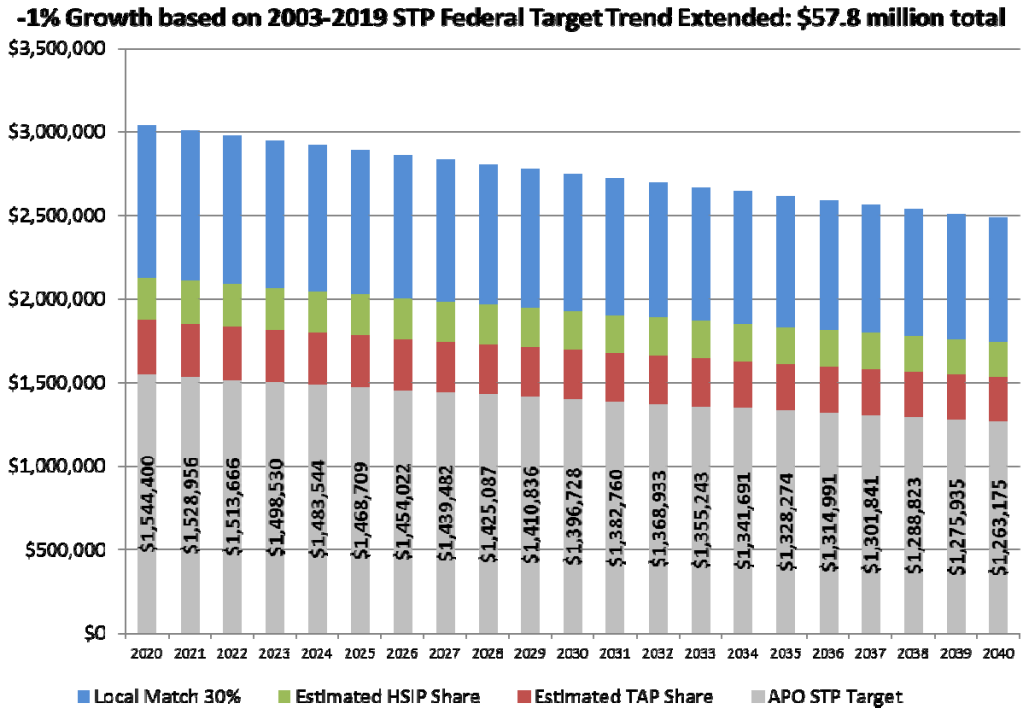
The 2035 Plan included a constrained funding forecast of almost $155 million. This forecast included $91.6 million in federal formula funding and $65.5 million in federal earmark funding. Federal earmark funding is not included in this funding forecast due to a congressional moratorium on this funding. In contrast, the 2040 financial forecast outline in this chapter has a total funding amount of $87.7 million.

15.3 Developing Forecast Variables

Financial forecast variables include the annual growth rate percentage of federal formula funds, the base funding amount to apply that growth rate, and the percentage of local match estimated for federal formula funding. The financial forecast in the 2035 Plan of $91.6 million was based on $1.9 million in funding per year with a 1.6 percent annual growth rate and a 35 percent local match. Three 2040 forecast scenarios were developed for initial discussion at the February 13, 2014 Technical Advisory Committee meeting. Each scenario initially used a 30 percent local match and included average percentages of Highway Safety Improvement Program (HSIP) funding (10% of total ATP) and Transportation Alternative Program (TAP) funding (20% of total ATP).

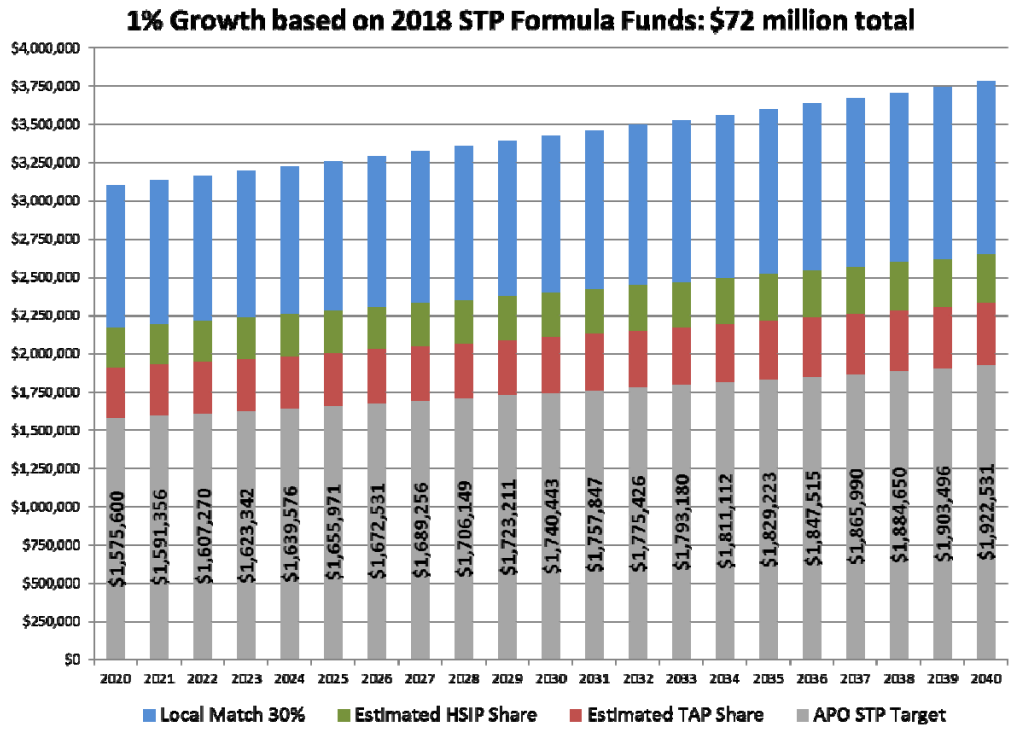
Forecast A is based on the average rate of change from 2003-2018. The overall percent change in federal formula funding for the APO was -14.5 percent, or about a one percent decrease per year. This forecast is based on a negative one percent decrease in funding from 2020-2040. Total funding including local match, HSIP, and TAP is projected at $57.8 million.

Figure 15-1: Forecast A



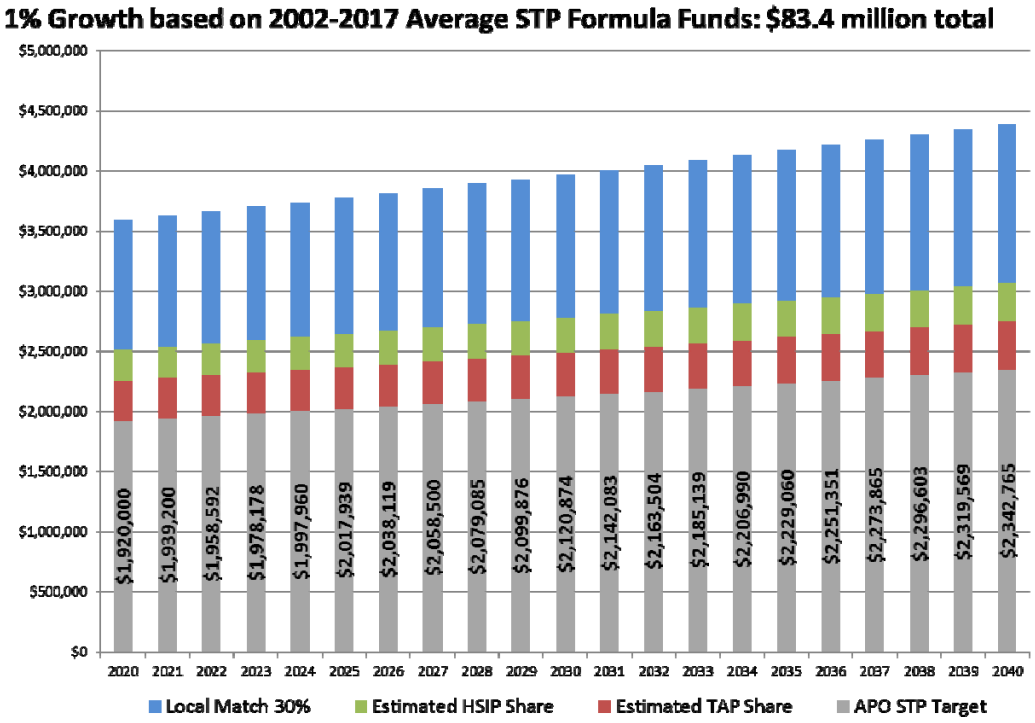
Forecast B is based on one percent annual growth, which has historically been used in the APO Plan as a "Fiscally Constrained" forecast. The one percent annual growth is calculated from the current funding amount in FY 2019 of $1.56 million for 2020-2040. Total funding including local match, HSIP, and TAP is projected at $72 million.

Figure 15-2: Forecast B



Forecast C is also based on one percent annual growth. This forecast, however, is calculated using the average federal funding for the APO from 2002-2017 of $1.9 million. The one percent annual growth is added to the average of $1.9 million beginning in 2020 and extending through 2040. This forecast excludes the recent formula change from MnDOT, which decreased the APO federal formula funds by 16

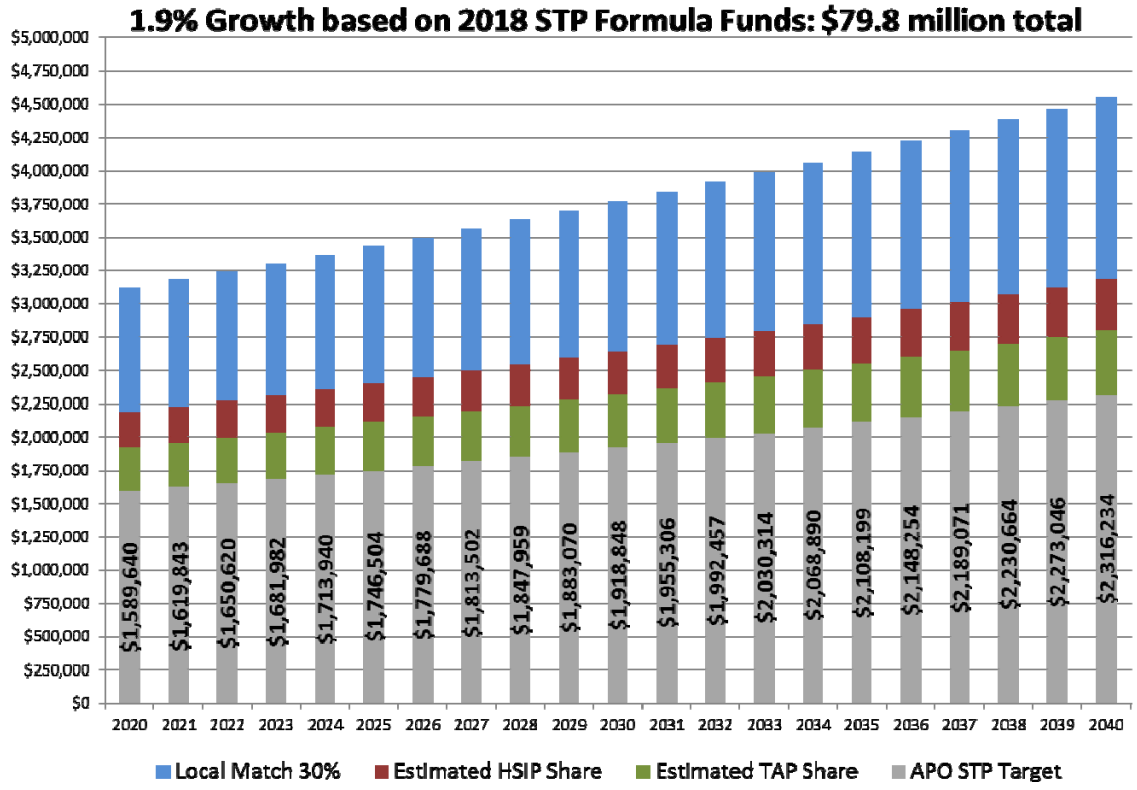
Figure 15-3: Forecast C



percent for 2018 & 2019. Total funding including local match, HSIP, and TAP is projected at $83.4 million.

Forecast D is based on a growth rate of 1.9 percent as recommended by MnDOT. The forecast is based on the current 2018 and 2019 federal formula funding amount of $1.56 million and incorporates an estimated local match of 30 percent. The total estimated funding amount is $79.8 million.

Figure 15-4: Forecast D



Forecast D is most similar to the TAC recommendation the March 6, 2014 meeting. TAC recommended a financial forecast for the 2040 Plan be developed using the following variables:

- 1.9% annual growth rate as recommended by MnDOT
- Base year funding of $1.56 million as currently programmed for 2018 & 2019
- 30% local match estimate for Road and Bridge Preservation and Safety projects and 50% local match estimate for Road and Bridge Expansion projects

Due to the variable amount of local match associated with the investment category percentages, the total financial forecast amount relies on the investment target percentages.

15.4 Investment Category Definitions

Due to the limited funding for road and bridge projects, the APO committees and board identified a new definition of what type of project qualifies as a road and bridge expansion project versus what qualifies as a road and bridge preservation project. In the previous Plan, two to three-lane projects were considered expansion due to adding a full lane of capacity to the system. In contrast, three-lane projects initially identified in the project identification process were not considered as expansion projects. The reasoning identified includes: a three-lane facility does not add thru-lane capacity and two to three-lane projects preserve the roadway capacity without necessarily adding capacity. The projects initially identified as expansion from two-lane to three-lane expansions were removed from consideration for the fiscally constrained expansion project list.

This change in policy was specified with a recommendation by the TAC: "*Define two-lane to three-lane road and bridge projects as ineligible for Road and Bridge Expansion Category funding and instead eligible under the Preservation Category funding".* No two to three-lane road and bridge projects are considered under the expansion category. These types of projects are eligible for federal formula funds, but would instead apply for funding designated under the Preservation category.

To apply for federal formula funds, agencies must ensure projects meet eligibility criteria defined by the Central MN ATP 3 and identified in the APO project application process. This section outlines the basics of what the APO will consider as an expansion project versus a preservation project for the purposes of the fiscally constrained portion of this Plan.

Projects considered for the system expansion category focus on adding capacity and mobility to the system by adding a lane of travel along an existing alignment or by constructing a new alignment. The expansion category includes new alignment projects, right of way purchases, roadway expansion to add a full lane each direction (i.e. two-lane to four-lane facility).

The preservation category includes system maintenance and operations and safety projects. The focus in this funding category is on activities that retain or restore the existing condition without adding capacity. Preservation and replacement includes traditional program categories of road repair, resurfacing, reconditioning, reconstruction, bridge repair, bridge replacement, and bridge reconstruction. Under the operations and safety side of the preservation category, the focus is on activities that safely and efficiently manage and operate existing systems, effectively addressing critical safety and operations problems through minor and moderate cost improvements. Projects under this category may also qualify for HSIP funding. The preservation category also includes intersection improvements, access management improvements to existing facilities, congestion management improvements, two to three-lane roadway improvements, and transit capital purchases.

15.5 Identification of Funding Target Category Percentages

Investment target percentages are identified for the 2040 Plan in order to guide project identification. For example, the amount identified for the Road and Bridge Expansion category is used as a funding limit for the fiscally constrained project list in the 2040 Plan. Investment categories have historically

included Road and Bridge Expansion, Road and Bridge Preservation, and Multi-modal. The 2035 Plan targets were 50 percent for Road and Bridge Expansion, 40 percent for Road and Bridge Preservation and Safety, and 10 percent for Multi-modal. The funding target percentages apply only to the federal formula funding received by the APO.

The Transportation Alternatives Program (TAP) and Highway Safety Improvement Program (HSIP) are now separate funding programs funded through the Central MN Area Transportation Partnership (ATP). These programs are included in the overall funding forecast with estimated local match amounts of 30%. TAP, which includes trail and sidewalk projects, provides an estimate of $12.1 million and HSIP is estimated at $9.6 million over the 20-year forecast.

Various percentages were considered as part of the planning process.

Figure 15-5: Potential Investment Targets based on 50% Match for Expansion Projects and 30% Match for Preservation Projects

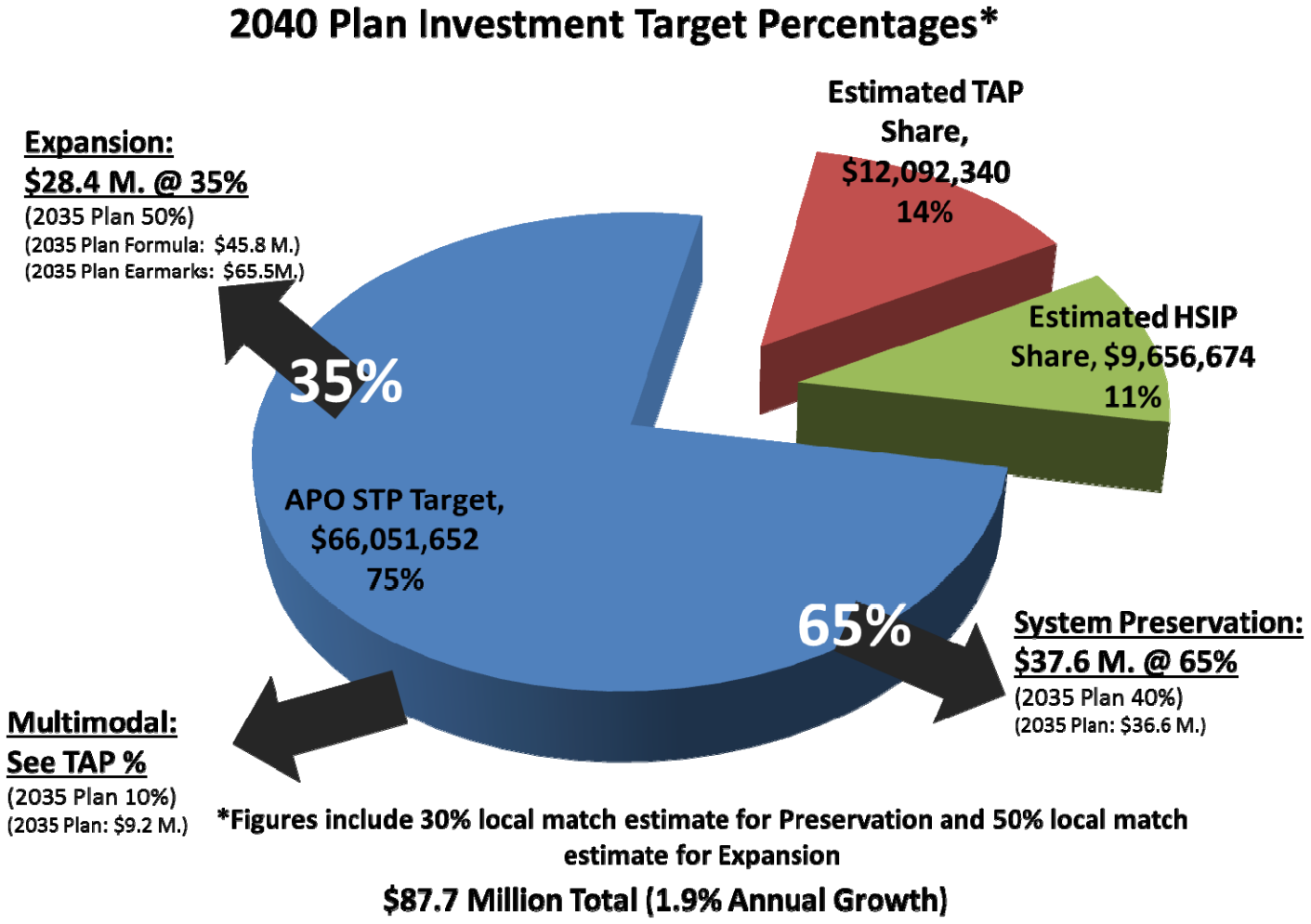
80% Expansion (50% match) - 20% Preservation (30% match)					
Total Expansion	$64,892,851	Total Preservation	$11,588,009	Total Federal Formula Funds	**$76,480,861**
70% Expansion (50% match) - 30% Preservation (30% match)					
Total Expansion	$56,781,245	Total Preservation	$17,382,014	Total Federal Formula Funds	**$74,163,259**
60% Expansion (50% match) - 40% Preservation (30% match)					
Total Expansion	$48,669,639	Total Preservation	$23,176,018	Total Federal Formula Funds	**$71,845,657**
50% Expansion (50% match) - 50% Preservation (30% match)					
Total Expansion	$40,558,032	Total Preservation	$28,970,023	Total Federal Formula Funds	**$69,528,055**
40% Expansion (50% match) - 60% Preservation (30% match)					
Total Expansion	$32,446,426	Total Preservation	$34,764,028	Total Federal Formula Funds	**$67,210,453**
30% Expansion (50% match) - 70% Preservation (30% match)					
Total Expansion	$24,334,819	Total Preservation	$40,558,032	Total Federal Formula Funds	**$64,892,851**
20% Expansion (50% match) - 80% Preservation (30% match)					
Total Expansion	$16,223,213	Total Preservation	$46,352,037	Total Federal Formula Funds	**$62,575,250**

At the March 6, 2014 meeting, TAC recommended investment target percentages of 35% for Road and Bridge Expansion and 65% for Road and Bridge Preservation. Multi-modal is no longer included as a specific investment category due to the development of TAP and multi-modal accommodations being incorporated as part of Road and Bridge Expansion and Preservation projects. This provides more funding to the Multi-modal category than the previous target of 10% with TAP alone representing 14% of total forecasted investment. Transit projects are eligible under the Preservation category. Discussion from the planning process centered on the need for large Preservation reconstruction projects throughout the region and balancing this need with the federal funding assistance the Expansion category funding provides to important regional projects.

With the approved investment target percentages, the forecasted amounts are as follows:

Expansion at 35% = $28.4 million
Preservation at 65% = $37.6 million
Total Formula Fund Investment = $66 million
+TAP funds = $12.1 million
+HSIP funds = $9.6 million
Total Federal Funding Forecast = $87.7 million

Figure 15-6: 2040 Plan Investment Target Percentages



15.6 APO Existing Revenue Sources

Local revenue sources available for transportation projects include: local property tax levy funds, special assessment funds, city/county bond funds, and local option sales tax. State and state-aid revenue sources available for transportation projects include: municipal state-aid funds, county state-aid funds, local road improvement program funds, local bridge bonding funds, trunk highway funds, and trunk highway bonds. Federal revenue sources available for transportation projects include: federal-aid highway formula funds including Surface Transportation Program (STP) funds, Transportation Alternative Program (TAP) funds, and Highway Safety Improvement Program (HSIP) funds. Federal revenue

sources no longer include federal-aid highway High Priority Project (HPP) funds or federal-aid highway annual appropriation earmarks.

MnDOT utilizes a number of newly named programs to identify preservation needs and distribute federal funds in the state. The District Risk Management Program is the new name for MnDOT's share of the state and federal target formula funds provided to the Districts. These funds are distributed based on the following formula: 20 percent non-principal pavement needs, 20 percent non-principal bridge needs, 30 percent trunk highway lane miles, 24 percent trunk highway vehicle miles traveled (VMT), and 6 percent trunk highway heavy commercial VMT. The actual funding amount available to each district varies each year based on need. Other major funding programs include the Statewide Performance Program (SPP) - Interstate and National Highway System (NHS) Pavement and the SPP-NHS Bridges. The SPP-NHS Pavement program provides funding for trunk highways and local pavement preservation projects on the Interstate and NHS. The SPP-NHS Bridges program provides funding for trunk highway and local bridges on the NHS. The goal of this program is to meet minimum condition levels as defined in MAP-21. MnDOT also programs federal funding for Highway/Railroad Grade Crossings and Off-System Bridges at a statewide level.

15.7 Overview of Project Cost Estimates

All of the existing cost estimates outlined in the Roadway chapter were developed using a 4 percent inflation factor. Due to the limited amount of funding and the low number of projects selected for the fiscally constrained road and bridge expansion list, project costs were averaged over the life of the Plan. Specifically, costs were developed for 2020, 2025, 2030, and 2035. The cost listed in the project list is the average of these four costs. Year 2040 was not included in the cost development because that was not the chosen methodology.

Planning level costs were developed by SRF, Consulting and do not include right of way costs or bicycle and pedestrian amenities in the construction cost estimate. APO has historically not funded right of way costs as part of the federal formula STP funding solicitation and no right of way projects are identified for the fiscally constrained project list in this Plan. Local agencies are responsible for funding right of way costs for Expansion projects and must submit a resolution committing to the local match and right of way costs at the time of the APO TIP project solicitation.

In addition, bicycle and pedestrian facilities on regional roadways are a local agency decision and not specifically identified in this long range planning process. The APO encourages local member agencies to submit applicant roadway projects with bicycle and pedestrian facilities by including this as one of the project solicitation scoring measures. In a competitive solicitation process, projects score technically higher due to the presence of bicycle and/or pedestrian facilities on one or both sides of the roadway. In this way, the APO encourages bicycle and pedestrian facilities on all projects applying for federal funds, not just the Expansion projects identified in this Plan. This also allows a local agency to decide if these facilities are cost prohibitive to the overall project cost as estimated in this Plan. In addition, a local agency can decide to apply for TAP funding through the APO and ATP, although the APO does not have a direct allocation of TAP funding to identify for future projects.

15.8 Local and State-aid Revenue Forecast

The financial forecast for local and state-aid resources was made by using historic data and known current funding levels from the APO TIP as a baseline (see Figure 15-7). Historic data from 1992-2012 was used to calculate average expenditures for expansion projects versus preservation projects (see Figure 15 -8). The average percentage distribution is 61 percent of funding over the 20 year period for road and bridge maintenance projects with 39 percent towards road and bridge expansion projects.

The baseline data was then extrapolated for 2020 to 2040 using a 1 percent annual growth rate (see Figure 15-9). The local and state-aid revenue forecast is estimated at $1,209,752,751 in the APO area from 2020-2040. Figure 15-10 illustrates the estimated amount of funding available for project level maintenance/preservation projects and local expansion projects on arterials and collectors. Total estimated amount available for local match is $523 million.

Figure 15-7:

Local & State-Aid & Local Federal Funding History

Year	City/County State Aid (2013 $$)	All Other Local Funds (2013 $$)	Total State Aid/Local (2013 $$)
1992	$4,397,496	$14,417,772	$18,815,268
1993	$4,338,012	$13,273,654	$17,611,666
1994	$4,093,637	$13,328,176	$17,421,813
1995	$4,092,851	$12,311,330	$16,404,181
1996	$4,620,450	$22,976,432	$27,596,881
1997	$4,878,836	$13,187,525	$18,066,361
1998	$4,978,396	$13,535,879	$18,514,276
1999	$5,079,052	$22,815,712	$27,894,764
2000	$5,149,469	$15,707,741	$20,857,210
2001	$5,562,261	$28,847,959	$34,410,220
2002	$5,526,183	$25,138,450	$30,664,633
2003	$5,100,784	$20,268,311	$25,369,095
2004	$5,469,393	$20,550,252	$26,019,645
2005	$5,343,643	$20,465,118	$25,808,760
2006	$5,133,265	$37,313,258	$42,446,523
2007	$5,124,953	$34,814,512	$39,939,465
2008	$5,681,769	$26,082,526	$31,764,295
2009	$6,208,334	$44,383,334	$50,591,668
2010	$6,441,649	$31,088,211	$37,529,860
2011	$6,731,580	$32,239,117	$38,970,697
2012	$6,917,770	$32,799,958	$39,717,728
Total	**$110,869,781**	**$495,545,229**	**$606,415,009**

Source: MnDOT State Aid Allotments and APO TIP.

Figure 15-8:

Local & State-Aid Funding History by "Maintenance" and "Expansion"

Year	Metro Area "Maintenance" (2013 $$)	Metro Area "Expansion" (2013 $$)	Metro Area Total (2013 $$)
1992	$14,763,248	$4,052,020	$18,815,268
1993	$15,532,166	$2,079,500	$17,611,666
1994	$11,487,482	$5,934,331	$17,421,813
1995	$13,288,357	$3,115,824	$16,404,181
1996	$24,473,481	$3,123,400	$27,596,881
1997	$10,677,230	$7,389,132	$18,066,361
1998	$14,498,653	$4,015,623	$18,514,276
1999	$13,481,301	$14,413,463	$27,894,764
2000	$14,427,400	$6,429,809	$20,857,210
2001	$15,791,750	$18,618,470	$34,410,220
2002	$21,333,410	$9,331,223	$30,664,633
2003	$14,087,748	$11,281,347	$25,369,095
2004	$15,285,306	$10,734,339	$26,019,645
2005	$14,207,636	$11,601,124	$25,808,760
2006	$27,131,182	$15,315,341	$42,446,523
2007	$27,648,803	$12,290,663	$39,939,465
2008	$20,905,996	$10,858,299	$31,764,295
2009	$18,993,179	$31,598,489	$50,591,668
2010	$19,960,211	$17,569,649	$37,529,860
2011	$20,809,597	$18,161,100	$38,970,697
2012	$21,030,270	$18,687,458	$39,717,728
Total	**$369,814,405**	**$236,600,604**	**$606,415,009**
% Split	**61%**	**39%**	**100%**

Source: MnDOT State Aid Allotments and APO TIP.

"Maintenance": pot hole filling, crack filling, snow plowing, etc., as well as overlay and reconstruction projects.

"Expansion": adding a lane or lanes to an existing road, or constructing a roadway on new alignment.

Figure 15-9: **Maintenance/Expansion Breakdown (1% Annual Growth)**

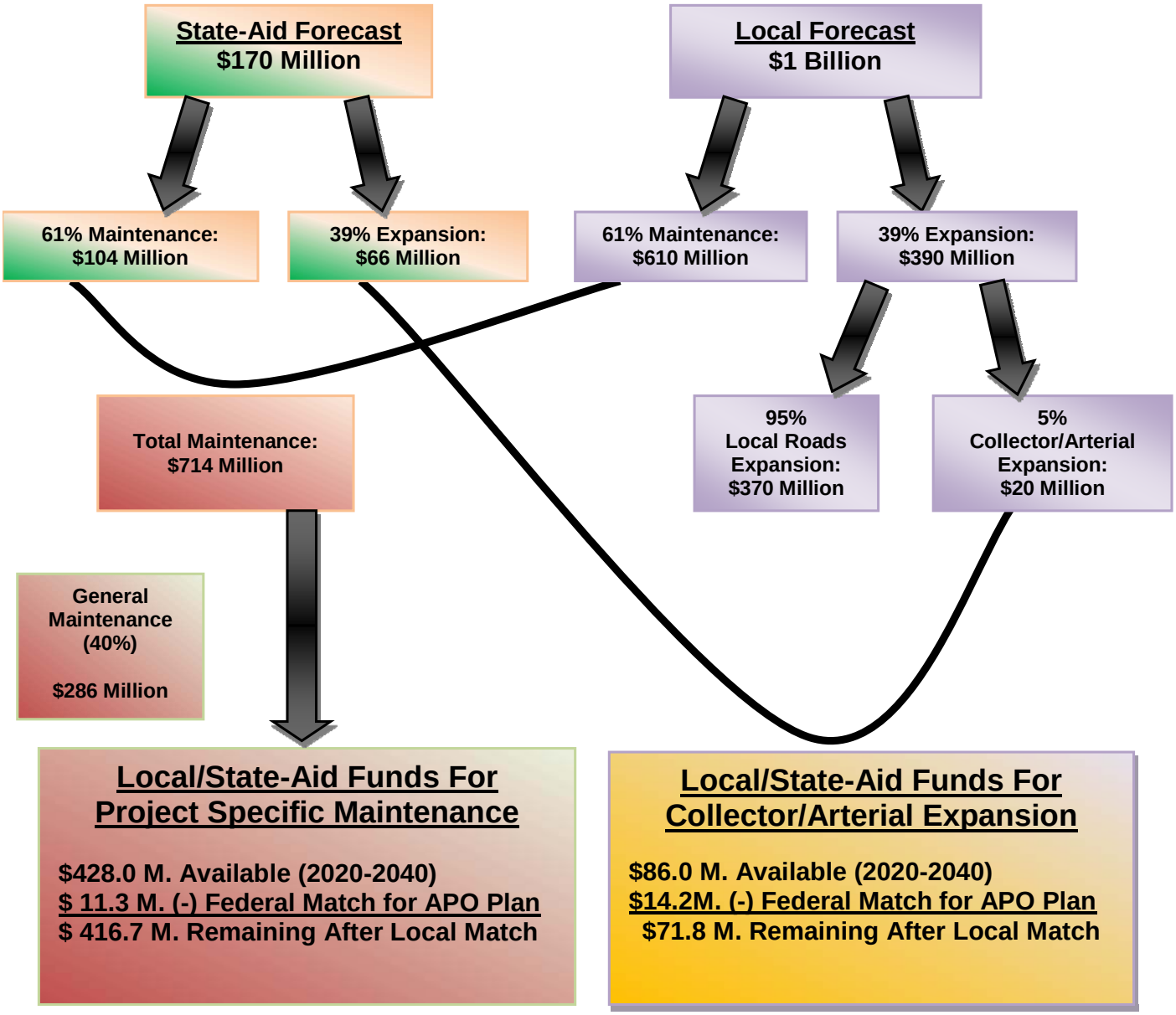
	State Aid	Local	Total	Total x 61% (Maintenance)	Total x 39% (Expansion)
2020	$7,328,654	$44,727,916	$52,056,570	**$31,754,508**	**$20,302,062**
2021	$7,401,941	$45,175,196	$52,577,137	**$32,072,054**	**$20,505,083**
2022	$7,475,960	$45,626,948	$53,102,908	**$32,392,774**	**$20,710,134**
2023	$7,550,720	$46,083,217	$53,633,937	**$32,716,702**	**$20,917,235**
2024	$7,626,227	$46,544,049	$54,170,276	**$33,043,868**	**$21,126,408**
2025	$7,702,489	$47,009,490	$54,711,979	**$33,374,307**	**$21,337,672**
2026	$7,779,514	$47,479,585	$55,259,099	**$33,708,050**	**$21,551,049**
2027	$7,857,310	$47,954,380	$55,811,690	**$34,045,131**	**$21,766,559**
2028	$7,935,883	$48,433,924	$56,369,807	**$34,385,582**	**$21,984,225**
2029	$8,015,241	$48,918,264	$56,933,505	**$34,729,438**	**$22,204,067**
2030	$8,095,394	$49,407,446	$57,502,840	**$35,076,732**	**$22,426,108**
2031	$8,176,348	$49,901,521	$58,077,869	**$35,427,500**	**$22,650,369**
2032	$8,258,111	$50,400,536	$58,658,647	**$35,781,775**	**$22,876,872**
2033	$8,340,692	$50,904,541	$59,245,233	**$36,139,592**	**$23,105,641**
2034	$8,424,099	$51,413,587	$59,837,686	**$36,500,988**	**$23,336,698**
2035	$8,508,340	$51,927,722	$60,436,062	**$36,865,998**	**$23,570,064**
2036	$8,593,424	$52,447,000	$61,040,424	**$37,234,659**	**$23,805,765**
2037	$8,679,358	$52,971,470	$61,650,828	**$37,607,005**	**$24,043,823**
2038	$8,766,152	$53,501,184	$62,267,336	**$37,983,075**	**$24,284,261**
2039	$8,853,813	$54,036,196	$62,890,009	**$38,362,905**	**$24,527,104**
2040	$8,942,351	$54,576,558	$63,518,909	**$38,746,534**	**$24,772,375**
Totals	**$170,312,023**	**$1,039,440,729**	**$1,209,752,751**	**$737,949,178**	**$471,803,573**
				Total Resources	**$1,209,752,751**

Figure 15-10: Maintenance vs. Expansion Revenue Forecast

61% Maintenance Breakdown		39% Expansion Breakdown	
60% of 61% is Project Level Maintenance	**40% of 61% is Non-Project Specific Maint.**	**83% of 39% is Local Roads Expansion**	**17% of 39% is Coll./Arterial Expansion**
$19,052,705	$12,701,803	$16,850,711.71	$3,451,350.59
$19,243,232	$12,828,821	$17,019,219.25	$3,485,864.18
$19,435,664	$12,957,110	$17,189,411.32	$3,520,722.80
$19,630,021	$13,086,681	$17,361,305.41	$3,555,930.02
$19,826,321	$13,217,547	$17,534,918.34	$3,591,489.30
$20,024,584	$13,349,723	$17,710,267.60	$3,627,404.21
$20,224,830	$13,483,220	$17,887,370.35	$3,663,678.26
$20,427,079	$13,618,052	$18,066,244.05	$3,700,315.05
$20,631,349	$13,754,233	$18,246,906.53	$3,737,318.20
$20,837,663	$13,891,775	$18,429,375.57	$3,774,691.38
$21,046,039	$14,030,693	$18,613,669.31	$3,812,438.29
$21,256,500	$14,171,000	$18,799,806.20	$3,850,562.71
$21,469,065	$14,312,710	$18,987,804.03	$3,889,068.30
$21,683,755	$14,455,837	$19,177,681.92	$3,927,958.95
$21,900,593	$14,600,395	$19,369,458.96	$3,967,238.58
$22,119,599	$14,746,399	$19,563,153.27	$4,006,910.91
$22,340,795	$14,893,863	$19,758,785.25	$4,046,980.11
$22,564,203	$15,042,802	$19,956,373.02	$4,087,449.90
$22,789,845	$15,193,230	$20,155,936.66	$4,128,324.38
$23,017,743	$15,345,162	$20,357,495.91	$4,169,607.60
$23,247,921	$15,498,614	$20,561,070.84	$4,211,303.67
$442,769,507	**$295,179,671**	**$391,596,965**	**$80,206,607**

Total Available for Fed. Local Match: $523 Million

Figure 15-11: 2020-2040 State-Aid/Local Funding Forecast
Maintenance and Expansion Breakdown **



** Based on historic APO TIP data.
1% Annual Growth

Figure 15-9 & Figure 15-10 (previous page) show approximately $523 million available for cities and counties for project level maintenance and collector and arterial expansion projects for 2020-2040. The figure above is the revenue forecast flow chart, illustrating the tables on the previous page. Figure 15-11 identifies $416.7 million remaining in local project specific maintenance funds and $71.8 million in collector/arterial expansion funds after subtracting the required federal formula fund local match outlined in that financial forecast. In addition, TAP funds need to be matched at approximately $2.4 million and HSIP funds at approximately $1 million over the 20-year period.

15.9 Fiscally Constrained Project List

The roadway chapter identifies a specific list and map of financially constrained road and bridge expansion projects for the $28.4 million available from 2020-2040. See the Roadway chapter for information on the project identification process. The APO does not identify a fiscally constrained list of TAP projects or HSIP projects because these funding decisions are made outside of the APO at either the Central MN ATP or State level. The Plan does include, however, a detailed safety analysis and identify desired regional bicycle and pedestrian facilities. Likewise, maintenance, operation and safety projects are not specifically identified in this Plan because this project type is first considered via a local agency by agency decision-making process. APO member agencies identify eligible preservation projects each federal formula funding solicitation cycle, which is every other year. The $37.6 million identified in the 20-year funding forecast for road and bridge preservation projects will be allocated to high ranking projects evaluated through the APO project application on a case by case basis.

The remaining $485 million of other local and state-aid funds available after federal local match is accounted for is not assigned to specific projects in this Plan. These dollars will be invested by APO member agencies on the collector and arterial system as needed and decided by local entities.

15.10 Financial Capability Finding

In summary, the investment category target percentages for APO federal formula funding are 65 percent for preservation projects and 35 percent for expansion projects. TAP and HSIP are separate funding programs funding bicycle/pedestrian and safety projects, respectively. The total federal formula fund investment is estimated at $87.7 million, with approximately $29 million of that amount being estimated local match funding. The estimated local match is satisfied by the local and state-aid revenue forecast, which estimates $523 million available over the 20-year period. The remaining funds estimated in the local and state-aid revenue forecast will be invested independent of the APO's federal planning and programming process.

A documentable Pavement Management System for cities and counties in the APO Planning Area does not exist to quantify the estimated amounts in this forecast. Comparison of known, historical city and county investments in maintenance, operations, and safety to the annual average estimated by this forecast reveals similar investment numbers. For example, known city and county investments average $20 million per year over the last five years. This forecast lists an estimate of $416.7 million remaining in local and state-aid funds for project specific maintenance projects. This is an average of $20.8 million per year for maintenance projects in the area. In addition, this estimate does not include non-project activities such as pot-hole filling and crack filling, which is accounted for and illustrated in Figure 15-10 at $295,179,671, independent of the amount available for project specific maintenance. Therefore, the forecasted funds available for maintenance and operation appear to be reasonable and adequate.

16.1 Linking Transportation Modes

The APO, as the regional metropolitan planning agency for the St. Cloud metropolitan area, has a responsibility to provide local federal funding and planning opportunities that focus on all areas of transportation – a holistic, multi-modal approach. This Plan serves as the basis for that approach.

The Plan incorporates a funding approach that balances funding for all modes of transportation, thus, linking all transportation elements through a regionally significant funding alternative. Capacity improvements have been included to help address roadway congestion and make the transportation system safer for all users including non-motorized, public transit/transportation, and freight users.

Funding is included for preserving the existing system, which will as a result, also makes the system safer. Money has been dedicated for multi-modal transportation through TAP funding, which provides opportunities for the bicycle/pedestrian in the St. Cloud metropolitan area. It is this investment strategy that helps link and provide opportunities for each transportation mode.

Addressing Policies & Strategies

Policies were established at the beginning of Plan's development to help serve as a guide for safety, access and mobility, system connectivity, system management, system preservation, energy and environment , metropolitan vitality and security. See Chapter 4 for more information on all of the Plan's policies. These in turn helped develop the target investment category percentages set at 65 percent for system maintenance and preservation, operational and select safety improvements, transit capital and corridor and environmental studies and the final 35 present going to capacity improvements.

In addition to transportation funding, it is important to assess how each Plan chapter compares to specific policies set forth in the Plan. Goals, objectives, and performance measures for each mode area are identified as part of the Plan. APO is committed to monitor the performance measures and targets and to strive to meet the goals over the life of the Plan.

An implementation plan has been developed that identifies key action items. Implementation of these will promote a balanced, multi-modal transportation system that focuses on sustainability, economic health and viability, quality of life and systematic capacity improvements for all modes of transportation.

Implementation Plan

The following implementation action items were developed through coordination with the public, APO committees, and Boards. APO staff will work with local jurisdictions, APO technical advisory, bike/pedestrian and transit committees, and the Executive and Policy Boards to assess and incorporate action items as appropriate into the Unified Planning Work Program (UPWP) and continue to be vigilant toward Plan policies.

Community Engagement (Action Items)

- Develop Self-Certification documentation that illustrates all APO planning (1) is conducted in accordance with all applicable requirements for Title VI of the Civil Rights Act (2) prohibits discrimination on the basis of race, color, creed, national origin, sex, or age, (3) involves disadvantages business enterprises, (4) incorporates equal employment opportunities, and (5) meets provisions of the Americans with Disabilities Act (ADA), Older Americans Act and Rehabilitation Act
- Provide public participation opportunities for all stakeholders and reach out to traditionally underserved populations
- Work on APO website to meet ADA requirements
- Develop database of stakeholders that can serve as a template for all public participation activities
- Identify and incorporate additional public participation activities that can be used on planning activities such as webinars, online forums, quarterly newsletters, blogs, twitter, Facebook, store kiosks, etc.
- Develop and distribute public participation survey to identify what activities would be most effective to involving stakeholders

Land Use (Action Items)

- Work with local jurisdictions to begin developing an accurate 2010 base year land use that can be used to update this Plan to the year 2045
- Work with local, regional, state and federal agencies and jurisdictions to coordinate all local and regional plans, including specific comprehensive, transportation, transit, park, and environmental plans
- Work with state demographer and U.S. Census Bureau to collect and analyze 2010 census data for planning area for base year of 2045 Transportation Plan
- Work local, regional, state and federal agencies and jurisdictions to maintain the most current GIS data relative to land use (i.e. parcels by land use type, wetlands, rock outcroppings, utilities, plats, environmental types, parks, trails, etc.) Explore the possibility of developing an online mapping system using Google Maps or similar web based mapping tool
- As requested, review site plans and subdivision plats for consistency with the APO 2040 Plan and access management guidelines
- Work with local jurisdictions to complete Growth Report and Plan for metro area that analyzes housing and demographic data and trends.

Management & Operations (Action Items)

- Work with MnDOT and local jurisdictions to provide support of additional Intelligent Transportation Systems (ITS) infrastructure as needed
- Support the regional efforts to improve incident management through funding of projects that incorporate ITS, Travel Demand Management (TDM) and Transportation System Management (TSM) strategies and proper enforcement, emergency response, roadside assistance and ITS techniques
- Work with local jurisdictions to integrate APO access management guidelines to create and maintain a healthy transportation network
- Encourage local jurisdictions to implement congestion management techniques that can alleviate travel delay, increase safety, and improve the carrying capacity of our transportation network
- Develop access management, ITS, TDM and TSM scoring criteria that can be incorporated into TIP regional significance technical scoring evaluation and the transportation planning process

- Evaluate access management, ITS, TDM and TSM during analysis of alternatives for corridor studies, NEPA documents and other transportation planning studies
- Conduct vehicle occupancy counts/studies and travel time studies to identify management and operation strategies
- Work with Transit Committee to develop TDM strategies for implementation
- Work with MnDOT, local jurisdictions and other agencies to assess current management and operations performance measures and develop additional measures to meet MAP-21 requirements
- Develop a pavement management database to coordinate and quantify APO member agency pavement needs

Financial Understanding & Evaluation (Action Items)

- Examine/identify other funding options and revenue sources beyond current revenue streams percent multi-modal investment approach set the initial direction of the Plan for meeting policies and strategies (see Figure 16-1 on Page 202)
- Work with local jurisdictions, Metro Bus and MnDOT District 3 to continue to collect and develop accurate financial reporting forecasts
- Monitor TIP investments so that programming of federal money matches the approved Plan funding split

Roadway Transportation (Action Items)

- Work with local jurisdictions to complete the appropriate NEPA project development (as regulations allow) for constrained roadway projects
- Work with MnDOT D3 and local jurisdictions to assess most congested locations for future roadway improvements
- Encourage preservation of right-of-way for projects identified in this Plan
- Work with local jurisdictions annually to provide the most current costs for projects identified in this Plan and revise as necessary
- Continue to work with MnDOT and local jurisdictions to obtain the most current traffic counts to incorporate into the CUBE model
- Develop congestion, pavement, bridge, safety and other roadway specific scoring criteria that can be incorporated into TIP regional significance technical scoring evaluation and the transportation planning process
- Work with MnDOT and local jurisdictions to monitor federal and state expenditures on roads and bridges in the St. Cloud metropolitan area
- Support regional efforts to upgrade highway corridors of regional, state and national significance including I-94, TH 15, TH 10, TH 23 and TH 95Initiate or assist on NEPA, corridor or transportation studies for the Southwest Beltway EIS and TH 15 Corridor Study, etc.
- Continue to develop CUBE travel demand model, integrating data with ArcGIS
- Work with MnDOT and local jurisdictions to analyze and develop a Congestion Management report
- Work with local jurisdictions to fund improvements that will most effectively address capacity issues
- Work with MnDOT and local jurisdictions and agencies to assess roadway performance measures in this plan

Transit Services (Action Items)

- Continue to be involved on Transit Committee to identify and prioritize projects to improve the efficiency of transit in the region and develop performance standards
- Continue to work with Metro Bus on System-wide Transit Study to incorporate systems modifications
- Work with MnDOT and local jurisdictions to develop and implement Transit Oriented Development (TOD) and TOD specific policies
- Continue to work with Metro Bus to collect accurate financial data for incorporation in to Transportation Plan, and coordinate with Tri-CAP and River Rider to develop financial reporting protocol/process for incorporation into 2040 Transportation Plan
- Work with Metro Bus to develop GIS based transit service map and post on APO and Metro Bus websites
- Assist with grant writing for transit specific grants that become available
- Coordinate with local jurisdictions and the Northstar Corridor Development Authority (NCDA) on Northstar Rail Phase II: Big Lake to St. Cloud initiatives
- Support state and federal positions for Northstar Rail Phase II
- Work with Tri-CAP and River Rider to identify opportunities where the APO can be of assistance
- Work with Metro Bus and local jurisdictions to identify future park-n-ride/park-n-pool opportunities for potential funding
- Work with local jurisdictions to incorporate transit friendly road improvements/designs
- Continue working with transit providers to collect most current ridership data and forecasts
- Support technology use and ITS to assist with transit operations for better on-time performance
- Better evaluate TDM and transit service during analysis of alternatives for corridor studies, NEPA documents and other transportation planning studies
- Work with MnDOT and local jurisdictions and agencies to assess current and potentially develop additional transit performance measures

Regional Airport Transportation (Action Items)

- Work with local jurisdictions and the St. Cloud Regional Airport (SCRA) to identify potential CSAH 7 corridors that will best serve the expansion of the airport and the crosswind runway
- Support St. Cloud Regional Airport state and federal funding initiatives
- Coordinate with SCRA on expansion and planning efforts

Non-Motorized Transportation (Action Items)

- Continue to facilitate St. Cloud Area Bicycle and Pedestrian (BP) Committee meetings
- Work with the BP Committee and local jurisdictions to develop an area-wide Non-Motorized Plan that incorporates gaps in the existing system, a list of BP priorities
- Work with area Independent School Districts (ISD) and BlueCross BlueShield of Minnesota, BLEND program to facilitate "Walk to School Day" events
- Work with area Independent School Districts (ISD) to analyze and identify future Safe-Routes-to-School projects (i.e. sidewalk connectivity, crosswalk locations, bike racks, flashing ambers, etc.)
- Work with MnDOT and local jurisdictions to develop and update the comprehensive GIS bike/ pedestrian facilities map
- Study the Bicycle Level of Service (BLOS) of on-road bicycle facilities and potential on-road bicycle facilities for APO area
- Identify gaps in the on-road bicycle facility network
- Develop a regional map of on and off-road bicycle facilities

- Work with local jurisdictions to develop a sample complete streets policy for consideration and adoption
- Support complete street (designs) during roadway improvements
- Support standards outlined in the MnDOT Bicycle Modal Plan and include bicycle facilities in the construction and reconstruction of road and bridge projects consistent with this Plan.
- Support the use of abandoned railroad corridors, parks, greenways, and other public access lands for establishing bicycle and pedestrian paths
- Encourage St. Cloud Metro Bus to coordinate with local jurisdictions to make transit stops accessible and convenient for pedestrians and bicycles and continue inclusion of multi-modal ranking when prioritizing federal transportation projects
- Maintain a record of bicycle/pedestrian crashes in the Metro Area
- Increase bicycle and pedestrian network connectivity across jurisdictions through local coordination of improvement projects
- Encourage pedestrian facilities on at least one side of all urban area roadways as infrastructure improvements occur within the developed urban core; promoting sidewalk connectivity throughout the network as new development occurs
- Work with local jurisdictions to provide safe, convenient pedestrian access at intersections that complies with all Americans with Disabilities Act (ADA) provisions
- Promote safe access for children when travelling to schools; work with local jurisdictions to designate specific access points to all school sites to provide safe access for children when travelling to schools
- Work with local jurisdictions to develop site plans that minimize walking in vehicle spaces and provide separated pedestrian and motor vehicle travel paths
- Work with local jurisdictions so that maintenance of designated bike facilities is included in the regular spring through fall street maintenance schedule, with high priority given to designated bicycle lanes; should provide a minimum of eight (8) foot vertical clearance and two (2) foot horizontal clearance on both sides of a bikeway at all times
- Work with local jurisdictions to develop bicycle parking/storage requirements for incorporation into local zoning ordinances, subdivision regulations, and building permit requirements
- Work with local jurisdictions to encourage employers to provide conveniently located, safe, and
- Whenever possible, weather protected bicycle parking for employees
- Work with local jurisdictions to make bicycle facilities in urban areas to be well lighted for user visibility and safety
- Cooperate with the Minnesota Department of Natural Resources (DNR) Division of Trails and Waterways to connect State Bicycle/Pedestrian Trails, such as the "Glacial Lakes State Trail," to the St. Cloud Area bikeway network
- Identify funding for, and develop an annual St. Cloud Metropolitan Area Bicycle, Pedestrian, and In-Line Skating Safety Awareness Month, with the support of local media, local jurisdictions, and local interest groups
- Encourage local jurisdictions, businesses, and other interested groups to support and promote national events that encourage bicycling, walking, and in-line skating (i.e. National Bike to Work Week, etc.)
- Work with local jurisdictions to provide adequate bike signage on all designated bike routes, bike lanes, and bike paths in the St. Cloud Metropolitan Area
- Work with MnDOT and local jurisdictions and agencies to assess current and potentially develop additional non-motorized performance measures

Freight Transportation (Action Items)

- Assist partner agencies to implement the outcomes of the 2012 Central Minnesota Regional Freight Plan/Study including but not limited identifying and prioritizing projects to improve the efficiency of freight transportation in the region including highway access and grade separations improvements, and the development of intermodal facilities.
- Take information from Central Minnesota Regional Freight Plan/Study and conduct a comprehensive freight and rail movement inventory for APO planning area that would identify MPO specific land use and safety issues, potential conflict areas with other modes of transportation, and the location of potential intermodal facilities
- Develop a GIS database that includes commodity flows, major/minor freight generators, regional corridors, safety concerns, etc. for further freight planning analysis
- Develop regional significance freight scoring criteria that can be incorporated into TIP regional significance technical scoring evaluation
- Work with local jurisdictions to determine the most effective way to engage freight stakeholders and develop a survey to distribute to identify systems needs and problems
- Work with MnDOT D3 and local jurisdictions to conduct corridor studies for TH 15, TH 23/CSAH 75 and Highway 10 corridors
- Monitor larger statewide projects, outside of APO planning area that may have a significant impact area and identify opportunities to implement (i.e. I-94 to TH 10 Clearwater crossover, I-94 Expansion from Rogers to Clearwater, statewide rail track improvements, etc.)
- Work with MnDOT and local jurisdictions and agencies to assess current and potentially develop additional freight performance measures (many may overlap with roadway measures)

Regional Safety & Security (Action Items)

- Continue to work with local, regional, state and federal agencies to establish and maintain regular reporting of safety information and crash data summarized in annual TSM report
- Continue to work on strategies to raise awareness of four E's (Education, Enforcement, Engineering & Emergency Management Services) and encourage projects that address regional safety issues
- Work with local jurisdictions, especially counties, to develop APO specific safety priorities and project list from County Safety Plans that include both reactive and proactive projects
- Work with local jurisdictions to develop and distribute safety survey to determine unmet local safety needs not addressed in County Safety Plans
- Support MnDOT's Toward Zero Deaths campaign
- Update APO website to include interactive MnCMAT safety data
- Work with local, regional, state and federal agencies and jurisdictions to create and distribute a safety brochure to better educate transportation users on metro specific issues
- Monitor TSM identified deficient intersections and make suggestions to jurisdictions for potential improvements for future TIP solicitations
- Work closely with local law enforcement to provide higher crash rate data for better monitoring of locations
- Work closely with aging and environmental justice populations including young, disabled, low-income and minority populations to identified safety issues for all transportation modes
- Identify and invest in uncontrolled, higher crash rail crossings
- Work with local, regional, state and federal agencies/jurisdictions to be involved with emergency management & homeland security
- Work with County Emergency Services and Homeland Security departments to involve transportation stakeholders such as freight, non-motorized and public transportation users and providers in critical transportation infrastructure planning and identifying and mapping primary

- Work with MnDOT and local jurisdictions and agencies to assess current and potentially develop additional safety performance measures
- Incorporate Plan safety project analysis into MnDOT D3 Safety Plan.

Air Quality, Environ. Mitigation & Environ. Justice (Action Items)

- Consult with local, regional, state and federal environmental stakeholders (i.e. Mn/DNR, Sauk River Watershed District, USEPA, USFWS, MPCA, Corp. of Eng., etc.) to develop environmental mitigation strategies and GIS database to better consider environmental concerns early in the planning and programming processes
- Work with local, state and federal stakeholders to develop climate change strategies for considerations and implementation strategies
- Work with state demographer and U.S. Census Bureau to collect updated census data and future estimates for the planning area for assessment of census tracts and blocks to identify environmental justice areas (i.e. low income, minority, young, elderly, and disabled populations)

16.2 Consistency of Project Programming Between Plan & TIP/STIP

Background

MnDOT has established eight (8) Area Transportation Partnerships (ATPs) throughout the State to manage the programming of federal transportation projects. Each of these ATPs is responsible for developing a financially constrained Area Transportation Improvement Program (ATIP) that is submitted for funding approval and incorporation into a financially constrained State Transportation Improvement Program (STIP). As the designated Metropolitan Planning Organization (MPO) for the St. Cloud metropolitan area, the APO must develop its own Transportation Improvement Program (TIP) that is incorporated into the Central Minnesota ATIP and the STIP. The Board approved investment target percentages outlined in the Financial Forecast Chapter guide APO TAC in the recommendation of funding alternatives during each project solicitation process. APO staff tracks project selection so to maintain consistency with the approved Plan funding approach.

Available Federal Funds

Since the passage of MAP-21 at the federal level and MnDOT's latest 20-Year Minnesota State Highway Investment Plan, the federal funds available to the Central Minnesota ATP have been divided into a set of performance oriented programs. The two largest programs are the Statewide Performance Program (SPP) and the District Risk Management Program (DRMP) which entirely fund state highways, including the National Highway System (NHS) and Interstates and is completely controlled by MnDOT for the purpose of maintaining pavement performance. Additionally, the Highway Safety Improvement Program (HSIP), focused on improving highway safety, is split between MnDOT's and the ATP's control. The Transportation Alternatives Program (TAP), focused on funding bicycle and pedestrian facilities and other non-highway and non-transit programs, is in the total control of the ATP. But, unlike in previous years, it now stands as a separate program. The Central Minnesota ATP receives around $1.6 million annually for TAP projects. The funding program entirely controlled by the ATP, and under the supervision of the APO is the Area Transportation Partnership (ATP) Managed Program. From this program the St. Cloud APO receives approximately 20.53% of the federal funds for the Central Minnesota ATP, or $1.56 million of the $7.6 million local federal share in federal fiscal year 2018.

TIP Development

Knowing how much annual local federal money will be available allows the APO to evolve to programming projects every other year. A five (5) year TIP is developed during the initial year of local federal programming. This every other year programming approach has allowed the APO to program approximately $3.12 million instead of $1.56 million each project solicitation, allowing for the programming of more projects. With MAP-21 requiring a minimum 4-year TIP, the APO will continue this every other year programming approach by adding a voluntary 5th TIP year.

Project Implementation (Plan-to-TIP/STIP)

The availability of local property tax revenue, state-aid revenue, and other local funds to partially address forecasted local collector/arterial system preservation needs over the forecast period allows for more flexibility in directing money towards a more multi-modal focus. The Plan approved funding approach is for 35 percent of the APO local federal forecast of approximately $28.4 million, over the life of the plan, to be directed toward capacity improvements while the other 65 percent has been allocated for other transportation improvements that include, maintenance and preservation, operational and select safety improvements, transit capital, and corridor and environmental studies.

There are a total of six (6) approved (financially constrained) roadway projects eligible to compete through the APO TIP/STIP solicitation process for the approximate $28.4 million for capacity improvements. The remaining money will be programmed for other transportation areas. See the Financial Chapter, of the Plan, to review the projects and more information about the current and proposed splits in federal highway funding.

Recently, the APO went through the local federal TIP solicitation process to determine local projects that should be funded in Fiscal Years (FY) 2018 and 2019 – with approximately $3.12 million to program. There were seven (7) project submittals of almost $7.2 million in federal requests from all transportation areas. Submittals included1 expansion project, 5 safety or roadway preservation projects, including one project focused upon intersection safety, and two (2) requests for bus purchases.

With the approval of this Plan, all future project selections must comply with the 35 / 65 percent division between expansion and preservation projects and all expansions projects must be listed within the Plan.

Figure 16-1: TIP Process Outline