



TRANSPORTATION CHAPTER

DRAFT JULY 13, 2017

Transportation Chapter

Introduction

It is the intent of this chapter to guide creation of a safe, equitable and well-maintained multi-modal transportation system in Saint Paul that supports vitality and the needs of all users and sets the stage for infill development to accommodate the city's projected growth. The transportation system relies primarily on its streets, which connect people to jobs, homes, shopping, education and recreation. It is important to have a consistent long-term vision that will gradually, strategically and consistently remake the city's transportation system so that it works better for all users.

Six overarching issues have received special consideration in drafting this chapter and have been integrated into the chapter goals and policies: racial and social equity, aging in community, community/public health, economic development, sustainability/resiliency and access to healthy food.

The following goals guide the policies in this chapter:

- investment that reflects the City's priorities;
- safety and accessibility for all users;
- a transportation system that supports employment and access to jobs;
- true transportation choice throughout the city, with a shift from single-occupant vehicles toward other modes;
- sustainable and equitable maintenance models;
- environmentally sustainable design;
- functional and attractive parkways; and
- a system that shapes and responds to technology.

The chapter establishes clear priorities for project selection. Projects will prioritize safety

and equity benefits, followed by support of quality jobs. Equity benefits entail improving livability for those who live in racially-concentrated areas of poverty, as delineated on maps by the ACP50 boundaries. Maintenance is also established as a "first cut" for project selection, because regular maintenance is much more cost-effective in the long run than allowing surfaces to deteriorate to the point they require total reconstruction. Regular maintenance, such as sealcoating or mill & overlay projects, allows for a greater number of projects to be accomplished over time. Further, streets without potholes are safer for all users. For competitive funding processes, project selection will also account for the anticipated ability to obtain funding. Finally, these priorities – as well as our land use priorities – will guide our approaches to future technology changes such as automated vehicles, with different needs, opportunities and stressors than what is on the road today.

The need is great: The life expectancy of Saint Paul's streets is approximately 40 years with the potential to extend by 20 years with mill and overlay maintenance, though many of our

streets go 90 years or more before being reconstructed. (See the Pavement Condition Index map in Appendix A.) Opportunities to remake streets are infrequent due to limited funds and a high volume of needs, which means that citywide plans require decades to implement. This makes prioritization of project selection very important.

Priorities are also established for the *design* of our rights-of-way, with pedestrians and bicyclists placed at the top. Pedestrians are the most vulnerable users of our rights-of-way, and almost everybody is a pedestrian for some portion of each trip. Considering pedestrians first will ensure a safe transportation system that works well for everyone. In many places, this will mean expanded, enhanced or separated pedestrian or bicycle facilities, especially at intersections. In industrial areas, these priorities may simply mean keeping pedestrians and bicyclists out of the way of trucks. This set of priorities will guide how the various tools in the City's Street Design Manual are used to design our rights-of-way in any given situation.

“Road diets” that convert undivided four-lane roads to three lanes will be aggressively evaluated and pursued wherever found to be appropriate in order to prioritize pedestrian safety. Undivided four-lane roads are among the most dangerous in the city. Conversion of these roads to three lanes can have a minimal impact on traffic flow, dependent on traffic volumes as well as context-specific issues, such as the number of access points. Other safety improvements will also be pursued, especially at intersections, as guided by the City’s Street Design Manual.

Pedestrians, bicycles and public transit will be planned for and supported in all parts of the city, especially where they are needed most. Bridges are called out as valuable opportunities to thoughtfully connect all transportation modes across barriers such as rivers, railroads and interstate highways.

Our transportation system will also work hand-in-hand with land use by supporting employment, providing quality transit where we expect more density via redevelopment and infill, and presenting a finer-grained streetscape as larger contiguous sites are redeveloped.

Goal: Investment reflects City priorities.

Policy T-1. Prioritize safety and equity benefits in project selection, followed by support of quality jobs – both through business support and connection of residents to job centers such

as downtown. Priorities will also be informed by specific modal plans, such as the Bicycle Plan or the forthcoming Pedestrian Plan.

(See Sidebar & Figures T-1, T-3 and T-5 through T-8 in Appendix A to inform implementation of this policy.)

Policy T-2. Use surface condition and multimodal usage rates to identify a first cut of transportation projects for potential investment, to ensure well-maintained infrastructure that benefits the most people.

(See Figures T-11 and T-13 in Appendix A to inform implementation of this policy.)

Policy T-3. Design rights-of-way per the following modal hierarchy:

1. Pedestrians, with a focus on safety
2. Bicyclists, with a focus on safety
3. Transit
4. Other vehicles

Goal: Safety & accessibility for all users.

Policy T-4. Adopt and implement a “Vision Zero” program with the long-term goal of achieving zero traffic fatalities and severe injuries. Components of the program should include engineering improvements and behavioral safety improvements, such as reducing driver impairment, inattentiveness and speed through education and enforcement.

Policy T-5. Implement “road diets” for undivided four-lane roads to convert them to three lanes where feasible.

(See Figure T-2 in Appendix A to inform implementation of this policy.)

Policy T-6. Implement intersection safety improvements such as traffic signal confirmation lights, pedestrian countdown timers, and leading pedestrian signal intervals. Reduce pedestrian roadway exposure via median refuge islands, curb extensions and narrowed travel lanes.

Policy T-7. Reduce speed limits where it will improve safety, and work with state and Ramsey County governments to overcome obstacles to implementing this policy.

Policy T-8. Design the rights-of-way for all users, including older people, children and those with mobility constraints, as guided by the Street Design Manual, and by thoughtfully addressing streetscape issues such as curb cut design, level sidewalks, lighting, accessibility to/from bus stops, and the presence of benches and buffers between sidewalks and streets.

Policy T-9. Design sidewalks, trails and transit stops for personal safety (real and perceived), including by providing lighting and boulevards.

Policy T-10. Support driver, bicyclist and pedestrian education to improve mutual awareness and safety.

Policy T-11. Minimize and consolidate driveway curb cuts as opportunities arise for redevelopment and infill sites that can reasonably be accessed via side streets, alleys or shared driveways, especially in areas with anticipated high pedestrian activity or with adjacent planned bikeways.

Policy T-12. When street design changes involve the potential loss of on-street parking spaces, prioritize safety for all transportation modes and explore mitigation of lost spaces where feasible and practical.

Goal: A transportation system that supports employment and access to jobs.

Policy T-13. Implement and support freight transportation improvements in and near industrial areas of regional economic importance, particularly West Midway, the Great Northern corridor, the Red Rock industrial area and the portion of West Side Flats east of Robert Street, to improve safety and connections to the regional transportation network.

Policy T-14. Explore freight delivery solutions that avoid loading/unloading conflicts in congested areas so as to support businesses

and provide safety to pedestrians and road users.

Policy T-15. Support above-standard streetscapes in business areas.

Policy T-16. Use pricing to manage parking demand and improve parking efficiency in areas with high demand and short supply.

Policy T-17. Work with agency partners and the Metropolitan Airports Commission to maintain a regional aviation system that balances commercial demand and capacity while being compatible with the community.

Goal: True transportation choice throughout the city.

Policy T-18. Reduce vehicle miles traveled (VMT) by improving transportation options beyond single-occupant vehicles.

Policy T-19. Pursue shifting mode share towards pedestrian, bicycle, public transit and carpooling as a solution to existing or anticipated traffic issues analyzed through traffic studies, rather than automatically assuming current mode share.

Policy T-20. Implement the Bicycle Plan to make bicycling safe and comfortable throughout the city, and to increase bicycling mode share.

Policy T-21. Implement the forthcoming Pedestrian Plan to make walking safe and comfortable throughout the city, and to increase pedestrian mode share for short-distance trips. Until the Pedestrian Plan is adopted, focus pedestrian infrastructure improvements in areas with acute pedestrian safety concerns, with existing or anticipated high pedestrian activity, and/or in racially concentrated areas of poverty.

Policy T-22. Provide sidewalks throughout the city, generally on both sides of the street, except potentially in portions of Highwood as directed via other officially-adopted City plans.

(See Figure T-1 in Appendix A to inform implementation of this policy.)

Policy T-23. Improve public transit mode share and support quality public transit in all parts of the city through strategic establishment of transit-supportive land use intensity and design, working with transit providers to improve their service offerings, and supporting transit facilities.

(See Figures T-5 through T-8 in Appendix A to inform implementation of this policy.)

Policy T-24. Expand commuter options with Travel Demand Management (TDM) and support of carpooling facilities.

- a. Require a TDM Plan for large developments and large employers.

- b. Explore individual incentives, employer programs and parking policies that encourage alternatives to the single-occupancy automobile.
- c. Support the work of other agencies, organizations and the private sector to market and support transit, carpooling, biking, walking, flexible work hours and telecommuting.
- d. Consider options to enforce and improve implementation of TDM Plans.

Policy T-25. Design holistically for all mode users, especially pedestrians and bicycles, in any bridge reconstruction or maintenance project such as for bridges (or lids) over interstate highways or the Mississippi River. Ensure that the project scope incorporates adjacent intersections as necessary to achieve such holistic design.

Policy T-26. Design streets with the needs of all mode users in mind, as guided by the Street Design Manual.

Policy T-27. Establish (or re-establish) the right-of-way grid with block lengths of 300 to 600 feet as redevelopment occurs on large sites in order to increase neighborhood connectivity and accommodate pedestrian-oriented, higher-density development.

Policy T-28. Accommodate access to community events and around construction projects by all mode users, including by working with Metro Transit to provide additional transit

service to major events, providing sufficient bicycle parking, generally avoiding the closure of bicycle lanes and providing detours for all modes.

Goal: Sustainable and equitable maintenance models.

Policy T-29. Pursue fiscally sustainable models for equitably maintaining transportation infrastructure in Saint Paul, including for right-of-way maintenance, bridges, sidewalks, trails and alley snowplowing.

Policy T-30. Consider the full long-term infrastructure costs when allocating maintenance funding compared to reconstruction funding.

Policy T-31. Maintain roadway pavements in pursuit of achieving a Paving Condition Index (PCI) of 70 on all City-owned streets.

(See Figure T-11 in Appendix A to inform implementation of this policy.)

Policy T-32. Reduce the number of heavy vehicle trips on local streets through measures such as consolidation, coordination and route designation/planning, in order to reduce maintenance costs.

Goal: Environmentally sustainable design.

Policy T-33. Seek opportunities to improve the environmental sustainability of rights-of-way in the city, such as through shared, stacked-function green infrastructure (SSGI) and planting trees to reduce the urban heat island effect.

Policy T-34. Lessen the negative impacts of interstate highways by supporting design interventions, such as “freeway lids” and landscaping and liner buildings on new bridges, that improve connectivity, hide the road and/or reduce pollution.

Goal: Functional and attractive parkways.

Policy T-35. Maximize space for recreation and landscaping uses within parkway rights-of-way, and prioritize recreation and landscaping in parkway design in order to maintain a park-like feel, particularly on the Grand Round.

Goal: A system that shapes and responds to technology.

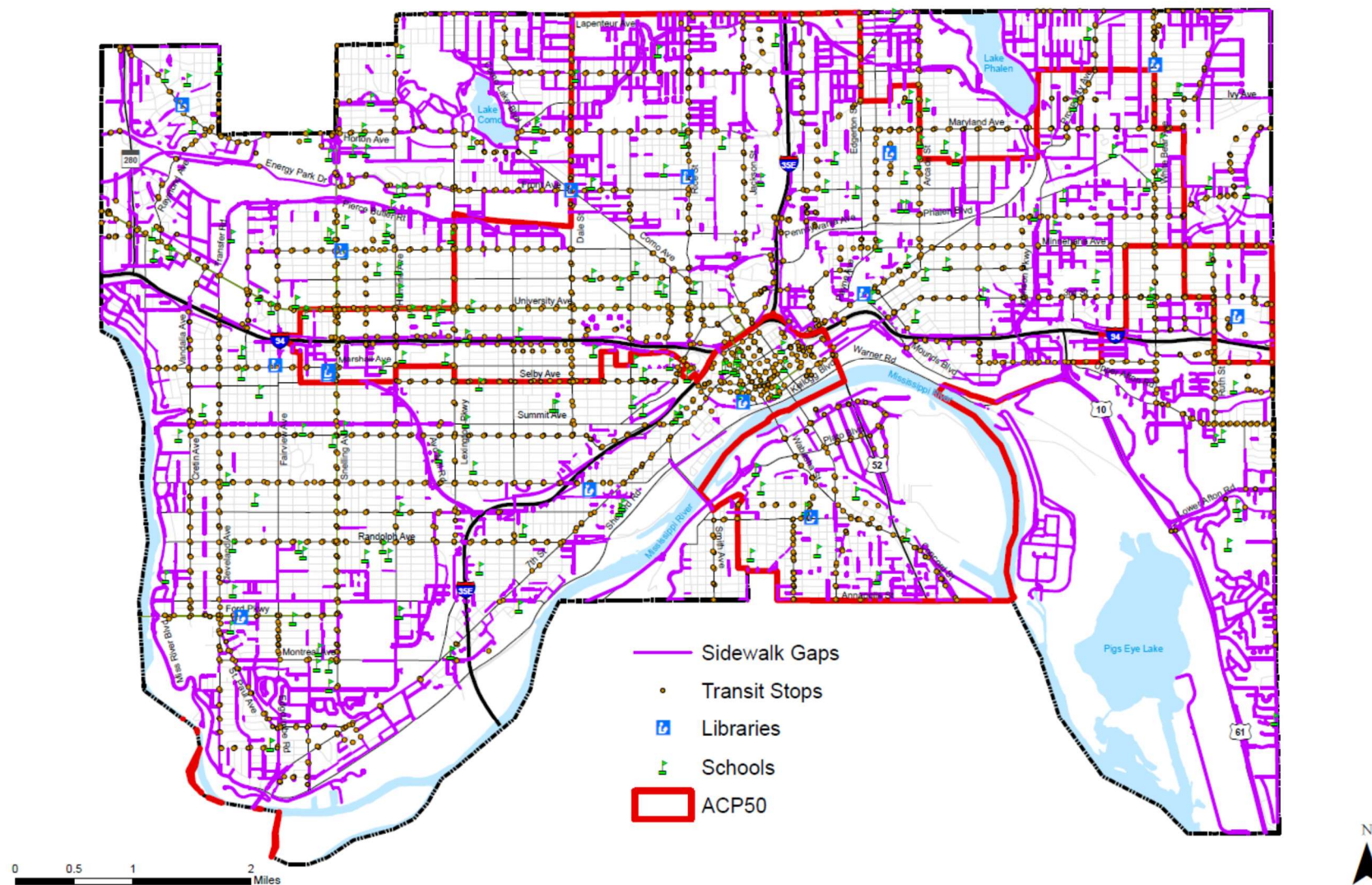
Policy T-36. Ensure that new technologies such as automated vehicles, as they may come into use, further the City’s transportation and land use priorities.

Policy T-37. Ensure that right-of-way design accounts for changing vehicle technologies and forms of use, such as automated vehicles, car-sharing and ride-sharing.

Appendix T-A: Maps

Figure T-1: Missing sidewalks, transit stops, libraries & schools

- Note schools w SRTS plans?



DRAFT JULY 13, 2017

Figure T-2: Number of Lanes on Arterial Streets*, ADT

- Including planned # of lanes, if it differs
- Technically this is only required for principal and A-minor arterials (not B-minor)

Figure T-3: Existing & Future Bikeways, Carless Households*

- Be sure to note “existing as of x date”
- Carless HHs part of map is not required

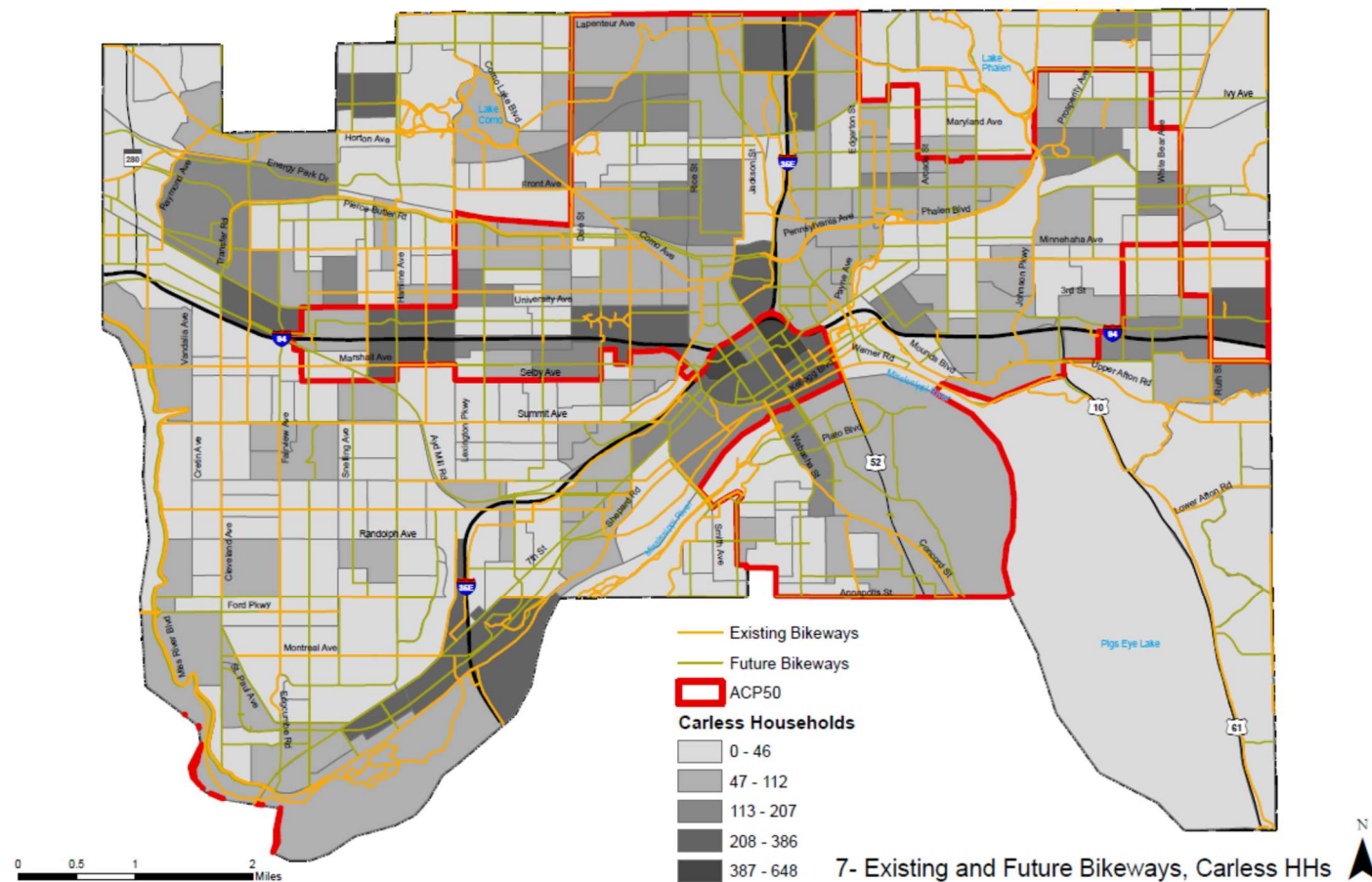


Figure T-4: Regional Bicycle Transportation Network*

- Required to show connections to local bicycle network, so maybe should refer to Bike Plan or insert its facilities map

Figure T-5: Job Concentrations and High-Frequency Transit

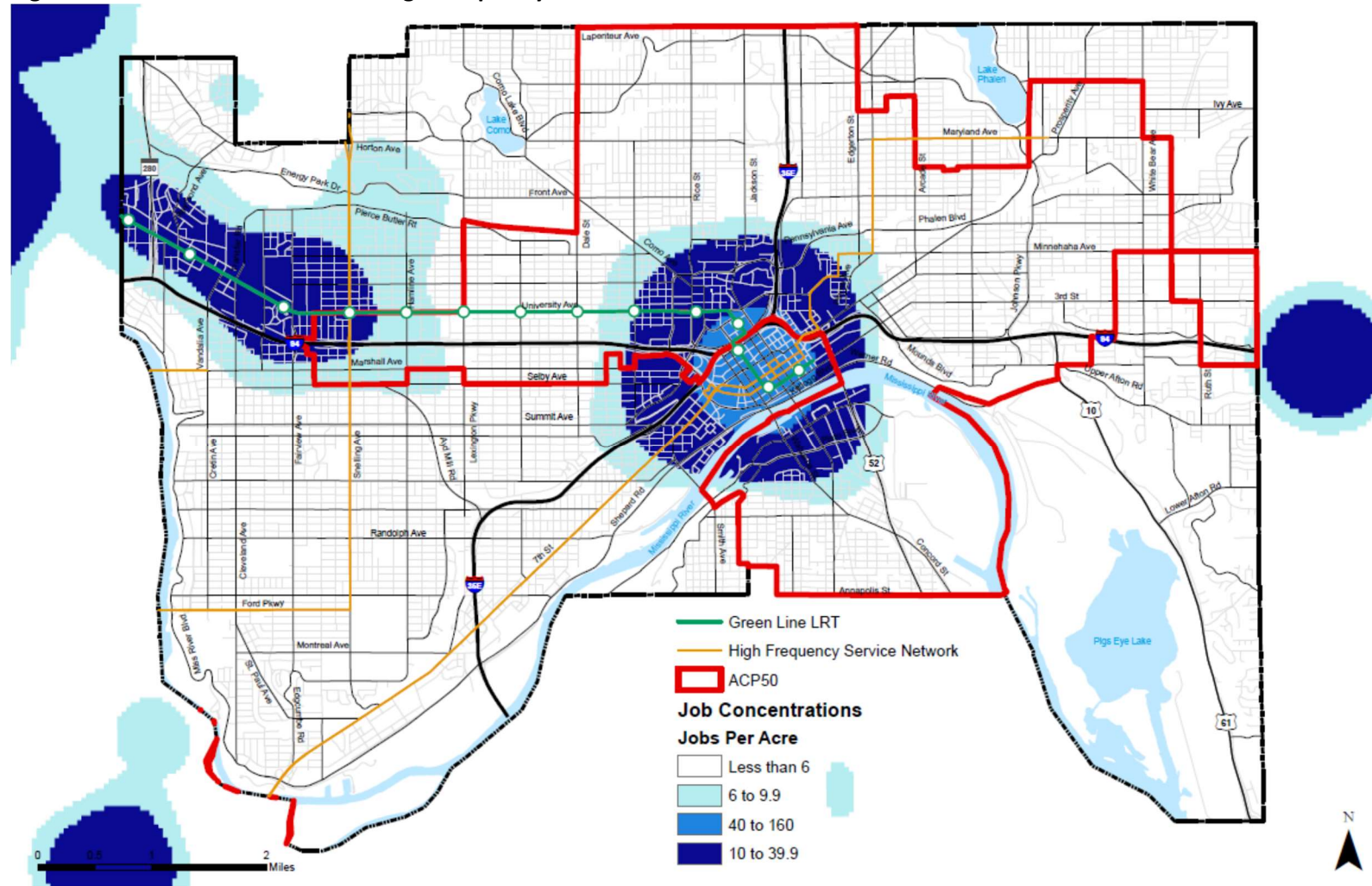


Figure T-6: Job Concentrations & Transit

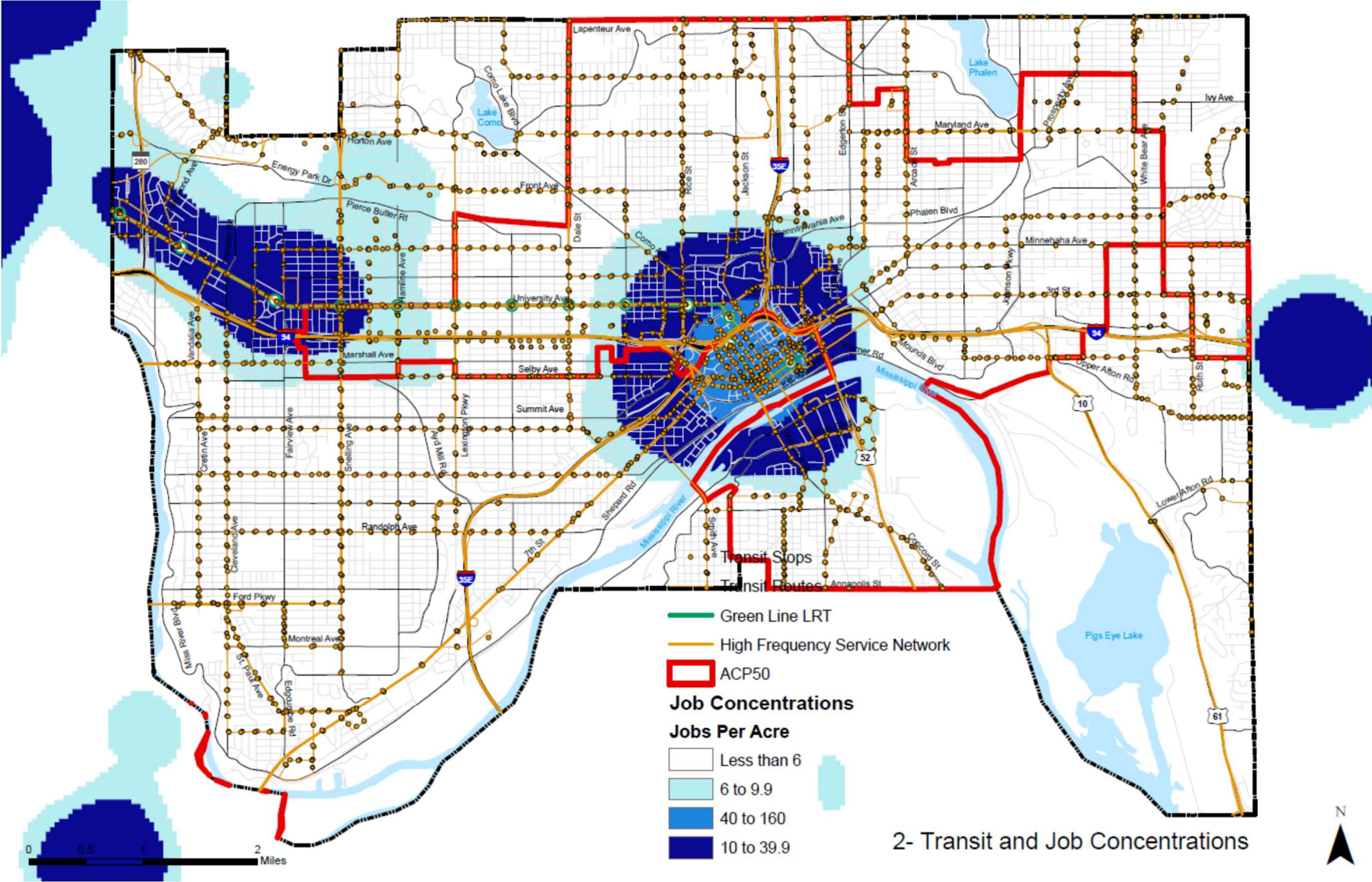


Figure T-7: High-Frequency Transit and Households Without Vehicles

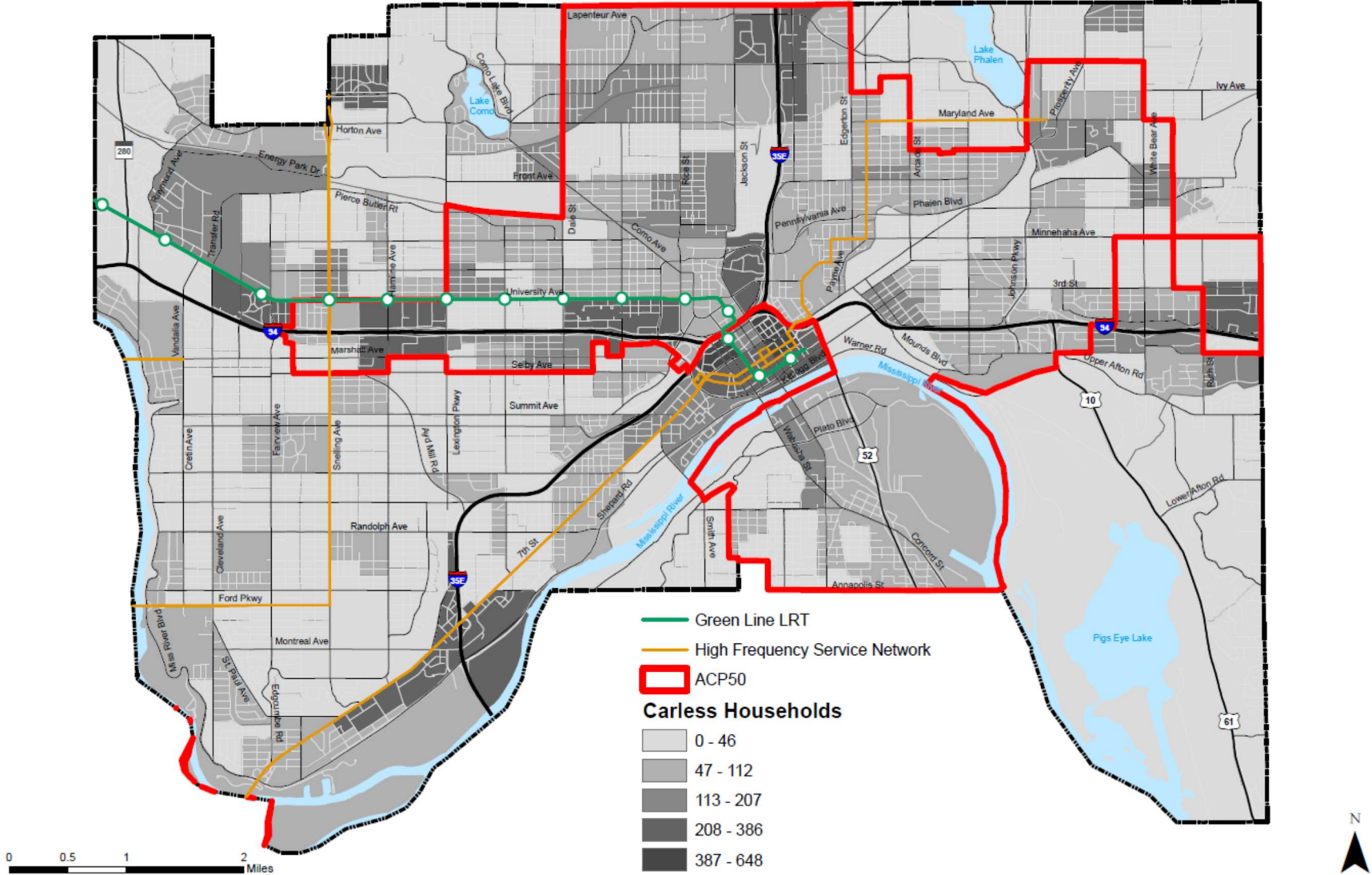


Figure T-8: Transit and Households Without Vehicles

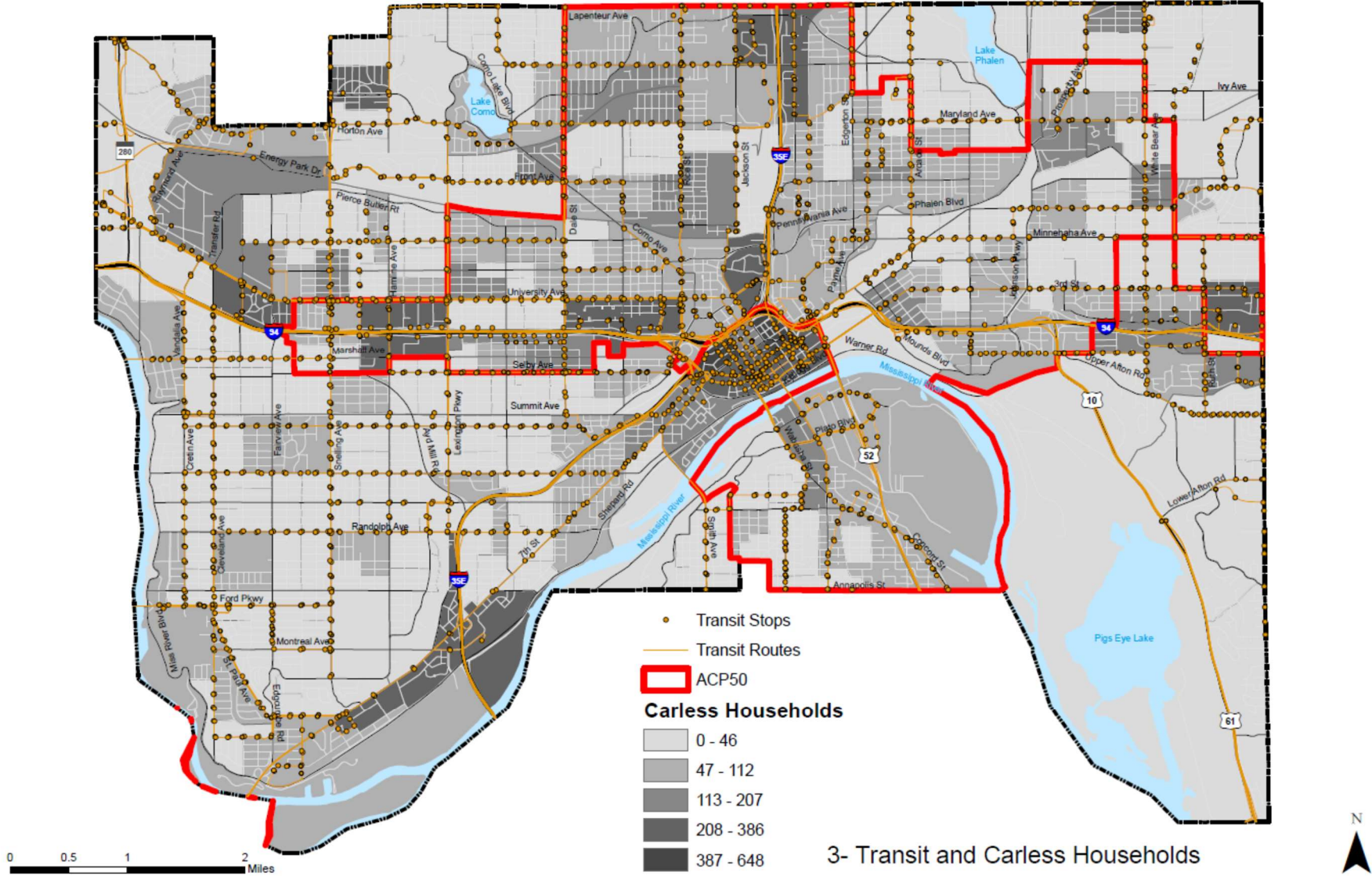


Figure T-9: Existing & Potential Transit Network and Facilities*

- Intended to be similar to 2010 Comp Plan’s map (see below)

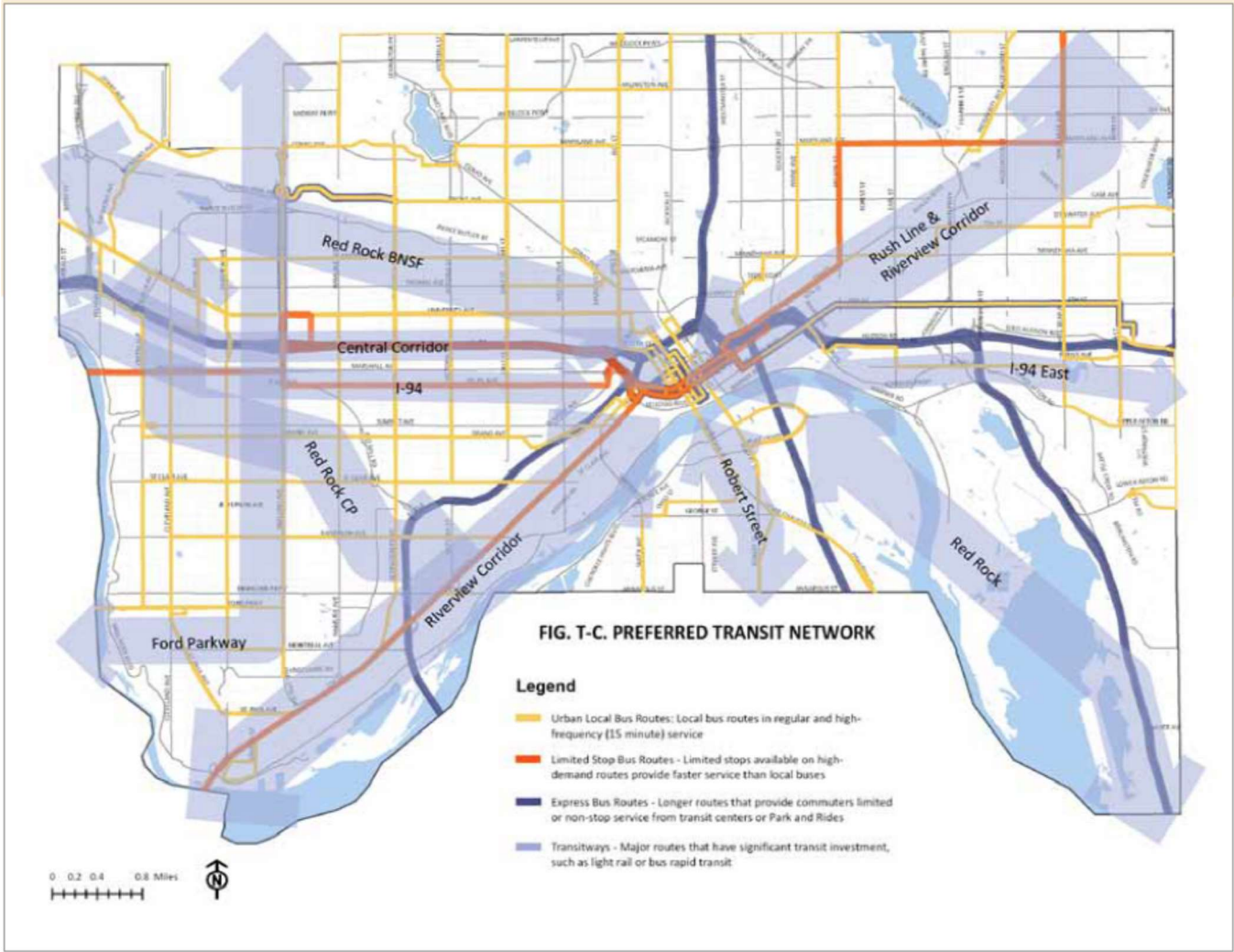


Figure T-10: Transit Boardings/Alightings

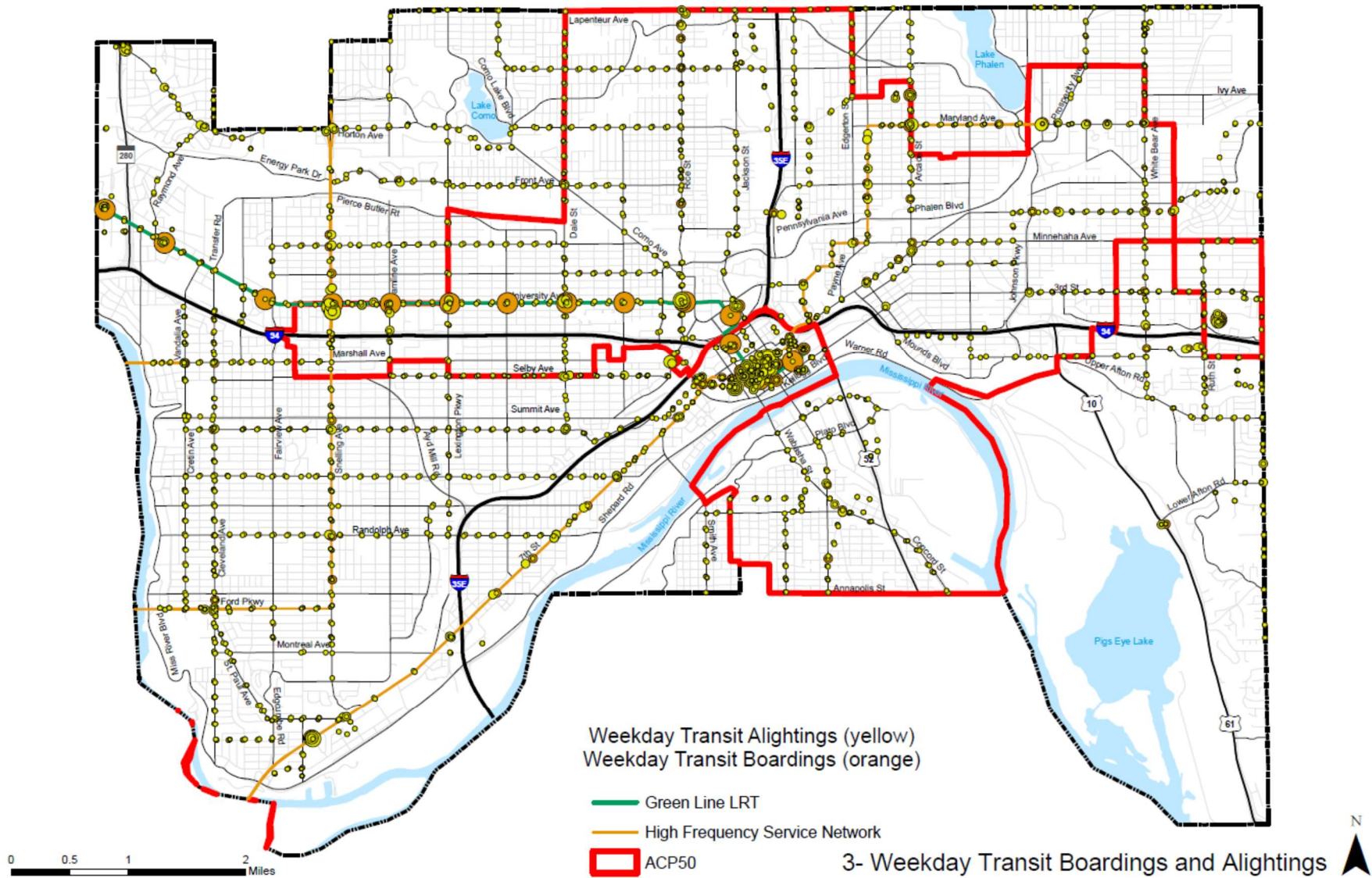


Figure T-11: Citywide Pavement Condition Index (PCI), 2013

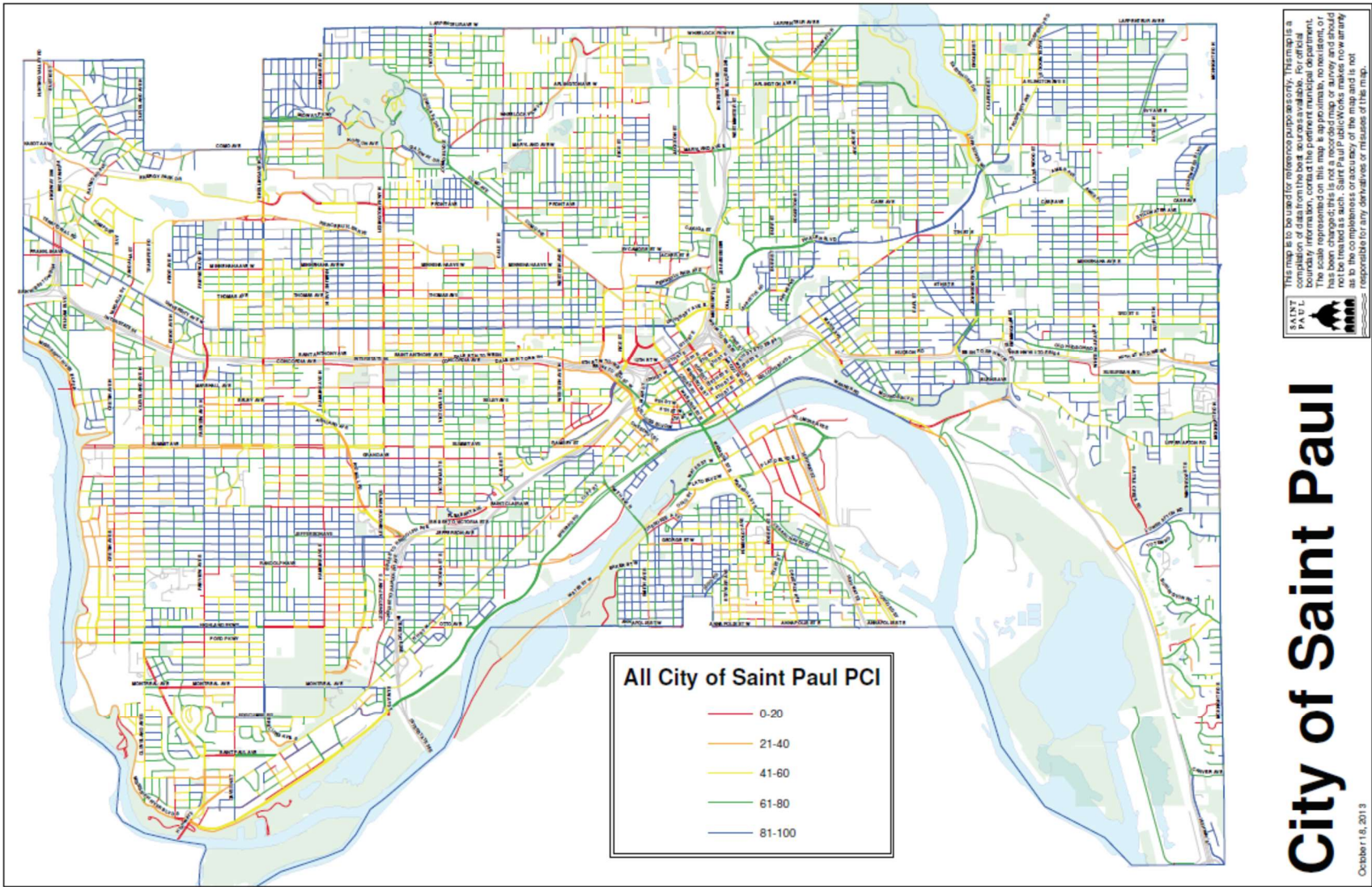


Figure T-12: Functional Classification of Roads*

Figure T-13: ADT & HCADT*

Figure T-14: Forecasted 2040 ADT*

Figure T-15: Current Revenue Scenario 2040 Principal Arterials Improvements*

Figure T-16: Future Right of Way Needs*

- Road ROW needs anticipated to be similar to 2010 map (below)
- Also intend to include bike ROW needs this time (or maybe even ped, if there are any) – this part will need updating

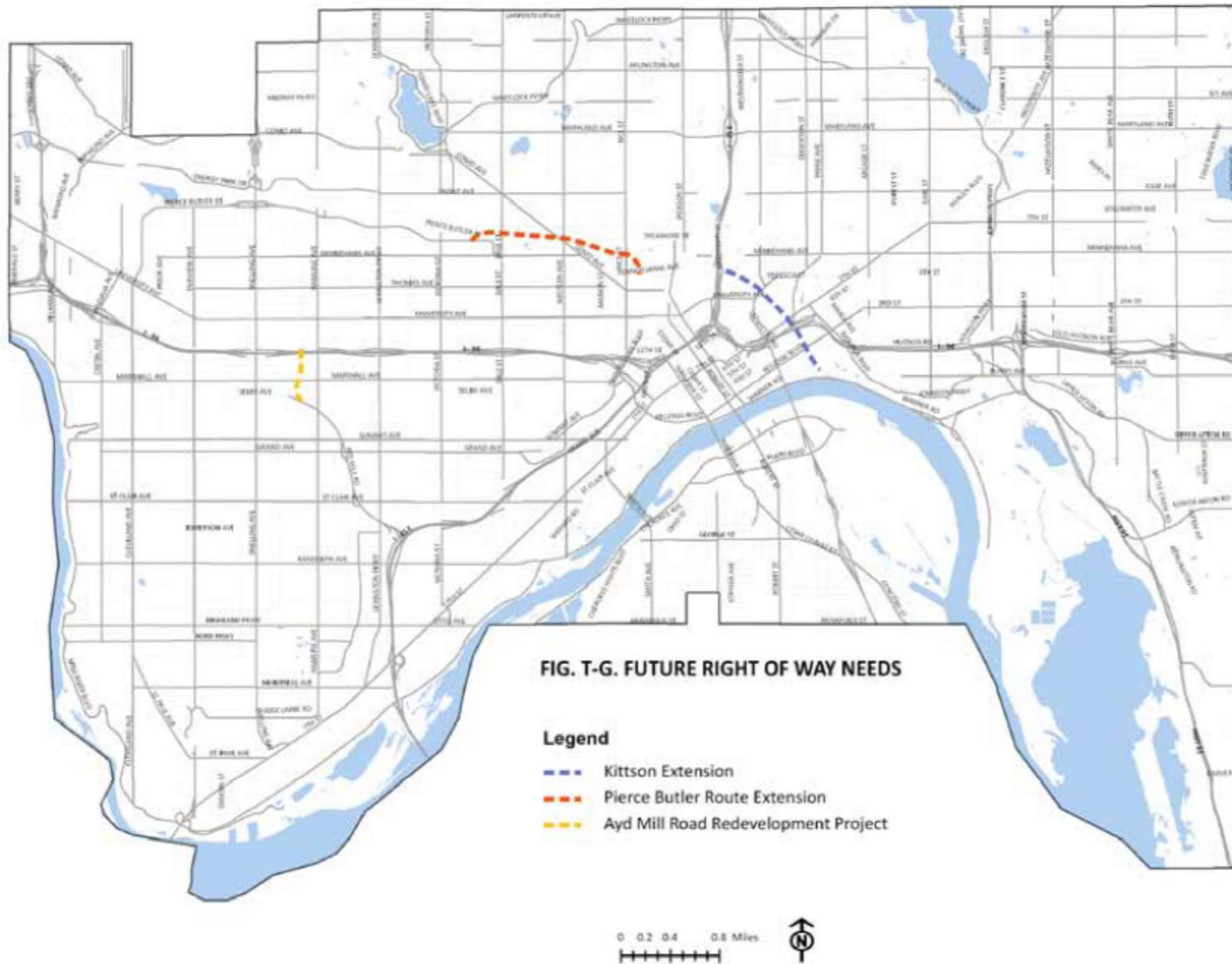


Figure T-17: Planned Improvements to the Metropolitan Highway System*

- Very limited in St. Paul – more of a suburban concern that is imposed on every city

Figure T-18: Freight Corridors and Facilities*

- Must include rail
- Must call out weight-restricted roads or bridges, bridges with insufficient height or width clearances, locations with unprotected road crossings of active rail lines, or intersections with inadequate turning radii

Figure T-19: Existing & Proposed MnPASS Lanes, Dedicated Busways and Bus-Only Shoulders*

*Required by the Metropolitan Council...

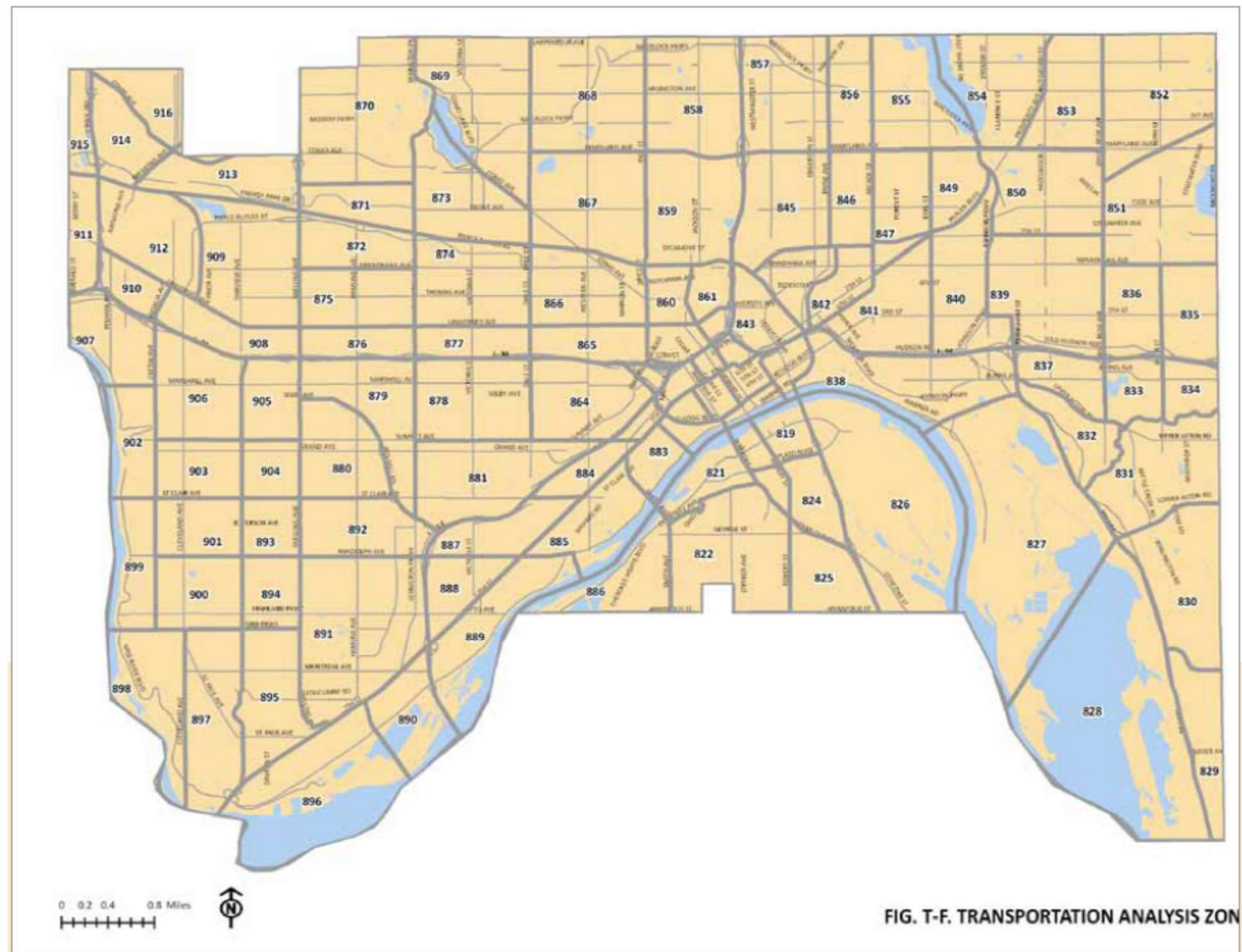
Appendix T-B: List of Potential Projects

The following projects are representative of those that could be considered for implementation of this chapter:

- Conversions of 4-lane roadways to 3-lane roadways
- Intersection improvements for safety
- Pedestrian facilities
- Bicycle facilities
- Bridge improvements to safely accommodate all users, over interstates, rivers, railways, and other obstacles to connectivity
- Dale Street Bridge over I-94
- Kellogg Boulevard/3rd Street Bridge reconstruction
- West Midway (Vandalia/Ellis/280/I-94/University) trucking improvements
- Kittson extension
- Pierce Butler Route extension
- Ayd Mill redevelopment, subject to a Supplemental Environmental Impact Statement (EIS) process involving a community task force
- Shepard, TH 5, and I-35E connection improvements
- Midtown Greenway extension into Saint Paul
- Grand Round completion
- Capital City Bikeway completion
- 4th Street and/or 5th Street pedestrian-oriented improvements to enhance the connection between Mears Park and Rice Park
- Connect pedestrians to the river by opening new points of river access
- Canadian Pacific Rail Spur conversion to other transportation uses
- New transitways:
 - Riverview
 - Gold Line/Gateway
 - Rush Line
 - Robert Street
- Modern streetcars
- Arterial Bus Rapid Transit

Appendix T-C: Traffic Analysis Zones & Traffic Counts

[Table and series of maps covering the entire city... was 3 pages of tables and 3 pages of maps last time; sample below]



SAINT PAUL TRAFFIC ANALYSIS ZONES (TAZ)

Allocation of Forecasts to Traffic Analysis Zones (TAZ)

TAZ #*	2000			2010			2020			2030		
	Pop	HH	Emp	Pop	HH	Emp	Pop	HH	Emp	Pop	HH	Emp
809	0	0	218	0	0	218	0	0	218	0	0	218
810	1,551	929	3,665	1,567	932	3,812	1,713	954	5,139	1,876	979	6,612
811	913	558	2,211	995	658	2,394	1,737	1,558	4,040	2,560	2,558	5,868
812	11	6	499	61	56	729	509	506	2,794	1,007	1,006	5,089
813	205	124	434	216	139	641	315	274	2,501	425	424	4,568
814	0	0	5,782	300	20	5,901	3,000	200	6,976	6,000	400	8,169
815	1,723	1,283	11,653	1,775	1,338	11,754	2,244	1,833	12,662	2,764	2,383	13,670
816	945	650	14,494	970	690	14,616	1,198	1,051	15,712	1,452	1,451	16,929
817	226	0	1,967	231	15	2,166	276	150	3,958	326	300	5,949
818	29	17	6,722	29	18	6,814	33	22	7,645	38	27	8,569
819	0	0	2,478	75	0	2,576	750	0	3,456	1,500	0	4,434
820	0	0	635	190	50	741	1,898	500	1,699	3,796	1,000	2,763
821	32	24	327	32	24	330	36	26	354	41	27	381
822	8,451	3,086	1,557	8,464	3,091	1,503	8,581	3,140	1,021	8,711	3,194	484
823	638	167	1,074	641	167	1,043	666	168	766	694	168	458
824	1,587	472	2,117	1,587	472	2,053	1,592	477	1,479	1,597	481	840
825	3,393	1,085	444	3,405	1,089	446	3,517	1,126	465	3,641	1,166	486
826	780	253	1,623	784	254	1,556	824	260	957	869	267	290
827	0	0	71	0	0	71	0	0	72	0	0	74
828	0	0	586	0	0	568	0	0	408	0	0	230
829	2,294	741	148	2,300	746	143	2,350	795	99	2,405	848	50
830	2,816	989	204	2,821	995	196	2,871	1,044	127	2,926	1,099	50
831	1,998	755	320	1,998	755	304	1,998	755	163	1,998	755	6
832	495	182	2	497	182	2	511	183	2	527	184	2
833	1,262	496	1,004	1,274	507	976	1,381	607	727	1,500	717	450
834	2,691	1,289	229	2,699	1,291	221	2,768	1,311	147	2,845	1,333	65
835	2,573	1,096	445	2,579	1,097	434	2,634	1,102	338	2,695	1,107	231
836	2,878	1,245	362	2,884	1,247	353	2,939	1,265	270	3,000	1,285	178
837	1,693	663	464	1,699	663	453	1,753	664	357	1,814	665	250
838	2,685	870	271	2,686	871	270	2,697	882	261	2,709	894	250
839	5,677	1,965	676	5,691	1,970	660	5,821	2,019	519	5,965	2,073	362
840	5,452	1,883	1,076	5,467	1,896	1,088	5,599	2,018	1,195	5,746	2,152	1,314
841	7,441	2,231	319	7,458	2,243	348	7,613	2,350	608	7,786	2,469	896
842	1,114	345	1,283	1,117	345	1,313	1,146	345	1,586	1,179	345	1,888
843	357	27	5,869	357	27	5,842	361	27	5,598	366	27	5,328
844	2,223	691	416	2,234	699	431	2,333	769	567	2,444	846	717
845	6,638	2,039	1,160	6,643	2,043	1,175	6,688	2,082	1,305	6,738	2,124	1,451
846	3,109	878	1,217	3,117	879	1,213	3,187	884	1,173	3,264	889	1,129
847	4,266	1,336	555	4,272	1,336	571	4,327	1,340	717	4,388	1,343	879
848	27	11	46	27	11	104	27	11	622	27	11	1,197
849	2,715	958	54	2,715	958	98	2,716	959	494	2,717	960	934
850	7,063	2,347	786	7,088	2,367	830	7,309	2,551	1,224	7,554	2,754	1,663
851	5,705	2,236	427	5,720	2,247	431	5,859	2,342	463	6,012	2,447	499
852	4,794	1,837	594	4,813	1,849	586	4,980	1,955	519	5,167	2,072	443

Acknowledgements (to be at the end of the entire Comprehensive Plan)

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