The Minnesota Comprehensive Statewide Freight and Passenger Rail Plan:

Addendum

Tech Memo 10– Conceptual Operating Scenario

2035 Potential System-wide Intercity and Commuter Passenger Train Volumes and Impacts

Minnesota Department of Transportation

April 15, 2011

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Introduction:

The Minnesota Comprehensive Statewide Freight and Passenger Rail Plan (the Plan) was officially adopted on February 9, 2010. The document included traffic forecasts and system impacts for both freight and passenger rail growth through 2030. Those impacts were utilized to identify bottlenecks and required capacity investments to keep the full system fluid for all users of the system throughout the study period encompassed by the Plan. The Twin Cities Metro area, with a population approaching three million and a focus of the majority of the state's rail activity, had several key locations identified for further study and improvement, driven in large part by the potential for a new generation of commuter and high speed intercity passenger rail services linking key economic centers.

The Plan did not attempt in its first iteration to perform a detailed investigation into specific train operations in the Metro area that would further define hot spots and facility needs. This addendum consolidates current active services and planned passenger rail implementation into a conceptual consolidated schedule. It builds on work performed by the Metropolitan Council, the regional MPO and transit operator, and urban station development work being advanced in both of the Metro downtowns of St. Paul and Minneapolis. The unique configuration of the Twin Cities historically was supported by union depots in both central business districts that were served seamlessly by the passenger rail network, with most long-distance trains calling in both cities. The Plan affirmed the logical need to duplicate this pattern of service to preserve the connectivity of the transportation system and maximize travelers' convenience and utility. Currently work is proceeding to re-establish major facilities at St. Paul Union Depot (SPUD) and Minneapolis Transportation Interchange (MTI). Both of these facilities not only provide for passenger rail, but also physically integrate urban bus transit, intercity bus, Light Rail Transit, and automobiles into true transportation hubs.

This addendum consolidates commuter rail services into the Plan, based on the Metropolitan Council Transportation Policy Plan. This will be fully accommodated in future state Plans. It offers pro forma consolidated system schedules based on through service between regional cities that share approximately similar train frequencies and operational characteristics as outlined in the Plan, and meeting at the Metro hubs. This operational concept offers true system connectivity for rail travelers from any point in the system. The pro forma schedules assume a full system build-out, with train frequencies and ridership consistent with the Plan. Amtrak long-distances services, HSIPR service from Chicago, and commuter services are all represented at 2035 and 2050 time points. These conceptual schedules also help to illustrate maximum-load capacity needs at the two Metro hubs, as well as the train volumes that could be placed on station approaches and on the two potential connecting routes between the downtowns in this through-routing scenario. The issues of project timing, complimentary planning, and cost allocation are also brought into better focus.

It is important to note that various corridors in this scenario are being planned and can operate as projects with independent utility, including the Northern Lights Express, MWRRI between Chicago and the Twin Cities, Rochester, and potentially the others. Any matching of services or corridors to achieve Plan goals of integration, efficiency, and travel convenience have been proposed on the basis of possible and logical matching of services based on their descriptions in the Plan. This concept is consistent with the Plan principles of an integrated system and connected services to both downtown Central Business Districts. It has been used as illustration in numerous public meetings and presentations, including discussions of connectivity with MWRRI, and has been discussed with the operating railroads and the partnering corridor coalitions. This does not in any way preclude differences in corridor characteristics or project development, such as higher speeds on a Rochester green-field route, or in the timing of project implementation. The Plan clearly calls not only for system integration and coordinated effort, but also for incremental, simultaneous, and opportunistic development of all proposed services. The Plan recognizes that project readiness needs to be pursued at

every opportunity, and that the Plan cannot be accomplished without consistent and uninterrupted efforts to advance each and every Plan component by all partners as is possible.

Summary of Findings:

The fully built-out system configuration in 2035 has at its core a high-speed intercity passenger rail (HSIPR) connection with Chicago, operating at up to 110 MPH. The State Rail Plan assumes 8 round trips with train loads averaging 400 travelers per train, best case ridership forecast. The pro forma schedules are based on 16 trips or 8 round trips (Appendix A).

The regional system connects six regional trade centers to the Twin Cities and the core. These are Rochester, Mankato, St. Cloud, Fargo/Moorhead, Duluth/Superior, and Eau Claire, Wisconsin. The regional system assumes 110 MPH service between Duluth and the Twin Cities, and Rochester and the Twin Cities. The Plan assumes top speeds of up to 90 MPH service to the other cities in the system. Eleven active train-sets would provide frequent service across the network to all regional centers, most enjoying between 4-9 round trips daily based on best case ridership estimates taken from the Plan. Load factors generally assume an average of 150 travelers per train trip (Appendix B-D).

Amtrak long distance services include the current daily Empire Builder, and projections for expanded Amtrak service to the West Coast (North Coast Hiawatha) and to the south via Sioux Falls. These added services are assumed to be implemented in the 2035-2050 timeframe.

Commuter services include the current Northstar Commuter Rail from Big Lake to Minneapolis, and the possibility of two additional services, Red Rock from Hastings through St. Paul to Minneapolis, and Gateway from Hudson Wisconsin through St. Paul to Minneapolis. These latter two are in active stages of evaluation or planning, situated along two of the Met Council's 'Undesignated Transitways' (Appendix E), where a preferred mode has not yet been selected. Train frequencies of four trips per peak period for both of the latter routes have been assigned as a placeholder for this exercise, based on preliminary estimates. The Rush Line corridor partnership has completed an Alternatives Analysis for the Rush Line Transitway that recommended against commuter rail on that corridor in favor of a mix of LRT for the urbanized protion and BRT for longer-distance suburban services. The full report and documentation can be viewed at this link; http://www.rushline.org/study.html. Hennepin County Regional Railroad Authority, in partnership with Mn/DOT, Met Council and local communities recently completed the Alternatives Analysis for the Bottineau Transitway. All documentation from the AA study is available on the project website at this link; http://www,bottransit.org. The Bottineau Transitway AA study recommends further evaluation of the most promising LRT build alternatives in the project EIS process, along with the potential for an optimized BRT scenario. Commuter rail was considered during the AA process and screened from further evaluation.

The remaining transitways with unspecified mode, TH 65 (Bethel), I-35W North, and U.S. 36 (Northeast), have not yet undergone an FTA AA evaluation.

SPUD , under this report's assumptions, could see up to 68 passenger train revenue movements by 2035, and 74 by 2050 (Appendix F). Expansion to six through tracks at platform would be indicated. Almost all the movements would be through movements with limited dwell time. Optimized train operations could see the need for activating both downtown-to-downtown routes, which would still concentrate over 70 weekday passenger train movements along with over 20 average freight movements on the segment from Minneapolis Junction to St. Anthony Junction, indicating a possible configuration of two-three tracks and a multiple track high speed interlocking at St. Anthony Junction.

MTI could see 86 revenue movements by 2035 and up to 90 b 2050 (Appendix G). Although operations will be supplemented by holding yards to the west of the station, useful for commuter and Chicago HSIPR trains, the majority of regional services would see this stop as a stub-end terminal, requiring reversals in the station to continue on schedule in a through-service scenario. The schedules assume a dwell time of ten minutes, but safety and work rules may mandate a longer dwell, which would impact both schedule keeping and through-ticketed traveler convenience between the served cities connected by a particular train. The conceptual schedule indicates a potential need of up to 8 tracks to allow for fluid and flexible operation. Approach and main-line track capacity would need to be maximized to achieve this goal and accommodate up to 20 freight train movements through the complex as well. Design alternatives would include expansion of MTI facilities at track grade at the current site, or a second Minneapolis station stop in the vicinity, possibly on the through main-line at Minneapolis Junction or in the proximity of the U of M. MTI facilities would also be expected to host an average of 8 regional and HSIPR trainsets on overnight layover, plus reserves, and an intermediate-level maintenance facility to conduct light and running repairs.

Based on current project readiness and assuming programmatic availability of Federal funding and support for infrastructure development, project sequencing would begin with the Twin Cities to Duluth corridor, the Northern Lights Express. Second in sequence, and crucial to the full system's success, would be Chicago HSIPR, MWRRI. The other regional and commuter additions are assigned operational start-up dates based again on readiness and an estimated equivalent progression through project development (Appendix H). Capital cost estimates are included in the Plan in current dollars for each of these corridors, designated by the outer end-points. With public and policy indications that this build-out is beneficial and desirable, the common facilities (MTI, SPUD, and downtown-to-downtown routes) should be set up as independent projects with a lease or shared investment mechanism that will ultimately share their costs among all users.

Description of Route Characteristics, including conceptual through routings:

Chicago - Twin Cities HSIPR;

This core route is planned for 110 MPH top speeds on a selected (preferred) existing freight route. Entrance to SPUD would be from the east (Westminster Junction) or the south (Hoffman Junction). These approaches are the subject of current capacity modeling and design work. Travel time, Chicago to St. Paul, is estimated at 5 hours 55 minutes – 6 hours 34 minutes including intermediate stops, consistent with Mid-West Regional Rail Initiative (MWRRI) Guidebook produced in 2003. Western terminus and layover sight for 4 trainsets would be MTI. Based on best case ridership estimate and load factors of 400 riders per trip, 8 daily round trips are indicated in the Plan. For reference and comparison, the MWRRI Guidebook notes a schedule of 10 round trips to Madison, with 6 of those daily round trips continuing to the Twin Cities, based on more detailed origin/destination modeling by station. This schedule assumes 8 round trips or 16 total trips, with layovers evenly split between Chicago and MTI. (Appendix A)

Duluth – Twin Cities;

Rochester – Twin Cities;

The Plan calls for each of these two corridors to be served by 8 round trips (nominally) with service at 110 MPH top speed. Rochester to St. Paul is scheduled at 78 miles in 1 hour, with 1 intermediate stop. Duluth to Minneapolis is scheduled at 155 miles in 2 hours 15 minutes with 4 intermediate stops. A coordinated through service would employ 6

active trainsets. Layovers would include 3 trainsets at MTI and 1-2 at Rochester and Duluth each. The outer layovers assume light servicing only, including cleaning, fueling, and provisioning. (Appendix B)

Mankato – Twin Cities;

St. Cloud - Twin Cities;

A coordinated through train service would serve each of these regional trade centers with 4 intercity round trips operating at up to 90 MPH top speed. St. Cloud, with higher ridership indicated, would also be served by 2 additional round trips running through to Fargo/Moorhead (see the Eau Claire & Fargo/Moorhead schedule for reference). Mankato to St. Paul is scheduled at 88 miles in 1 hour 10 minutes with two intermediate stops. Minneapolis to St. Cloud is scheduled at 70 miles in 1 hour 10 minutes with 1 intermediate stop. 2 active trainsets would be assigned to cover this through service. Layovers would normally be accommodated with 1 at St. Cloud and 1 at Mankato. (Appendix C)

Eau Claire – Twin Cities;

Fargo/Moorhead – Twin Cities;

Eau Claire would be served by 4 round trips, with two of those round trips scheduled to continue through to St. Cloud and Fargo/Moorhead, the other two terminating at MTI. Eau Claire to St. Paul is scheduled at 86 miles in 1 hour 15 minutes with 3 intermediate stops. Minneapolis to Fargo/Moorhead is scheduled for 235 miles in 3 hours 15 minutes with 3 intermediate stops. Layovers would include 1 trainset at Eau Claire, 1 at MTI, and 1 at Fargo/Moorhead. The timetable at the Fargo layover would permit the consideration of an extension to Grand Forks if desired, supplementing Empire Builder service. (Appendix D)

Additional Considerations:

Besides corridor development and investment to support these services, track capacity, track geometry, switch and interlocking configuration and control, signaling, and facility capacity all require upgrades as or before these various services phase in. The economies and conveniences of an integrated passenger rail system are obvious but depend on a relatively complete system build-out, or at least complementary integration of train operations as and when they come on line. Specific sites that will need improvement include the Third Main, Minneapolis Junction, MTI (full terminal complex), St. Anthony Junction, SPUD, Westminster Junction, and Hoffman Junction. The latter two are currently under study, and the two station sites are also undergoing expansion work.

Note that the end of each route segment in the integrated system will require a limited facility for trainset layover, including light maintenance, provisioning, and possible fueling. Minneapolis as hub of the regional network will supply layover space for a larger number of trainsets, and is the logical location for a medium-duty maintenance facility. This is consistent with the MWRRI concept, with layovers at the ends of the Chicago hub routes as well as in the Chicago area, and logical location of the heavy-duty maintenance facility near the Chicago center of the hub. This hierarchy of facilities provides the maximum utility and flexibility for the system with a minimum of duplication and capital expense, and allows incremental development of both facilities and routes.

Given these caveats, the major advantages in support of this integrated system configuration must also be recognized. By the end of 2012, both downtowns will be able to boast of active passenger rail facilities that exhibit an extremely high

degree of connectivity with local transit and transportation from the very start, by design and with the full cooperation of all public and private partners. The Twin Cities rail system is already extensive and robust, and most routes under consideration have good condition track, direct routings, and provision for double tracking and capacity improvement. Finally, the Chicago to Twin Cities corridor that is the core of the system is estimated to have the highest ridership potential o any of the Chicago Hub branches, with a good probability of a positive farebox recovery ratio against operating costs. Historically, this was one of the strongest and highest performing travel corridors in the country, and remains so today.

The Plan assumes full core and regional passenger rail services to both downtowns, with maximum possible connectivity between the mix of rail services and all other transportation modes. Given the state of facility development and the sequencing of projects, any and all routes and route alternatives will benefit from these common facilities and their expansion without discrimination.

Finally, Mn/DOT has continued to advance work on the Plan with additional cost-benefit analysis, capital planning and expansion projects, and a completed 2011 Passenger Rail Governance Study. The latter, with full consent of our partners on the Minnesota Passenger Rail Forum and on the various corridor coalitions, recommends a leading role for Mn/DOT in planning and coordination, above and beyond those roles that are mandated for project oversight and funding recipient. Confirming the direction outlined in the Plan, the Governance Study, and its additions, The Minnesota Department of Transportation as such is committed to actively engage in project development and coordination with all parties, to the end of assuring full coordination and cooperation. Those parties includes the state's Regional Railroad Authorities, the Metropolitan Council and state MPO's, the Governor and Legislature, local governments, the railroads, and the FRA and FTA. The goal in this addendum and in future efforts is to maintain rail system capacity for both freight and rail throughout the state and preclude any planning or activity that will negatively impact the overall capacity and performance of the developing transportation network.

Appendix A:

Train Schedules - Conceptual System Integration

Chicago - Twin Cities - HSIPR Service

Northbound:						
Chicago		SPUD	MTI			
5:30 AM		12:04 PM	12:24 PM			
8:00 AM		2:17 PM	2:37 PM			
10:05 AM		3:57 PM	4:17 PM			
12:30 PM		6:48 PM	7:08 PM			
2:35 PM		8:50 PM	9:10 PM			
4:55 PM		11:01 PM	11:21 PM			
6:15 PM		12:49 AM	1:09 AM			
11:30 PM		6:04 AM	6:24 AM			

Southbound:						
MTI	SPUD		Chicago			
5:22 AM	5:42 AM		11:32 AM			
6:55 AM	7:20 AM		2:05 PM			
8:34 AM	8:54 AM		2:40 PM			
10:44 AM	11:04 AM		5:19 PM			
12:14 PM	12:30 PM		7:19 PM			
3:35 PM	3:55 PM		9:45 PM			
5:46 PM	6:06 PM		12:46 AM			
11:00 PM	11:20 PM		6:35 AM			

Trainsets Required:			8	Layovers:	4	MTI
					4	CHI

Appendix B:

Train Schedules - Conceptual System Integration (through service)

Duluth - Twin Cities;

Rochester - Twin Cities;

Northbound:				
Rochstr	SPUD	MTI	Duluth	Trainset
		6:00 AM	8:15 AM	D
6:00 AM	7:00 AM	7:30 AM	9:45 AM	E
7:00 AM	8:00 AM	8:30 AM	10:45 AM	F
8:20 AM	9:20 AM	9:50 AM	12:05 PM	B
10:30 AM	11:30 AM	12:00 PM	2:15 PM	A
1:00 PM	2:00 PM	2:30 PM	4:45 PM	C
3:00 PM	4:00 PM	4:30 PM	6:45 PM	D
4:30 PM	5:30 PM	6:00 PM	8:15 PM	E
6:30 PM	7:30 PM	8:00 PM	10:15 PM	F
8:00 PM	9:00 PM	9:30 PM		B

Southbound:				
Duluth	MTI	SPUD	Rochstr	
	6:30 AM	7:00 AM	8:00 AM	B
5:15 AM	7:30 AM	8:00 AM	9:00 AM	A
6:45 AM	9:00 AM	9:30 AM	10:30 AM	C
8:45 AM	11:00 AM	11:30 AM	12:30 PM	D
10:45 AM	1:00 PM	1:30 PM	2:30 PM	E
12:30 PM	2:45 PM	3:15 PM	4:15 PM	B
2:15 PM	4:30 PM	5:00 PM	6:00 PM	F
4:00 PM	6:15 PM	6:45 PM	7:45 PM	A
5:15 PM	7:30 PM	8:00 PM	9:00 PM	C
7:30 PM	9:45 PM			D

Trainsets Required:	6	Layovers:	2	MTI
			2	ROC
			2	DUL

Appendix C:

Train Schedules - Conceptual System Integration (through service)

Mankato - Twin Cities;

St. Cloud - Twin Cities;

Northbound:								
Mankato		SPUD	MTI		St. Cloud		Trainset	
6:30 AM		7:40 AM	8:10 AM		9:20 AM		B	
	((	8:15 AM	8:50 AM		10:00 AM	))	EC-F/M	*
9:50 AM		11:00 AM	11:30 AM		12:50 PM		A	
	((	2:15 PM	2:50 PM		4:00 PM	))	EC-F/M	*
2:50 PM		4:00 PM	4:30 PM		5:40 PM		B	
5:30 PM		6:40 PM	7:10 PM		8:20 PM		A	
Southbound:								
St. Cloud		MTI	SPUD		Mankato			
6:40 AM		7:50 AM	8:20 AM		9:30 AM		A	
((9:05 AM		10:15 AM	10:45 AM	))			F/M-EC	*
10:40 AM		11:50 AM	12:20 PM		1:30 PM		B	
1:40 PM		2:50 PM	3:20 PM		4:30 PM		A	
((3:05 PM		4:15 PM	4:45 PM	))			F/M-EC	*
6:40 PM		7:50 PM	8:20 PM		9:30 PM		B	

Trainsets Required:		2		Layovers:	1	STC
					1	MAN

*See Eau Claire - Fargo/Moorhead schedule (St. Cloud stop).

Appendix D:

Train Schedules - Conceptual System Integration (through services)

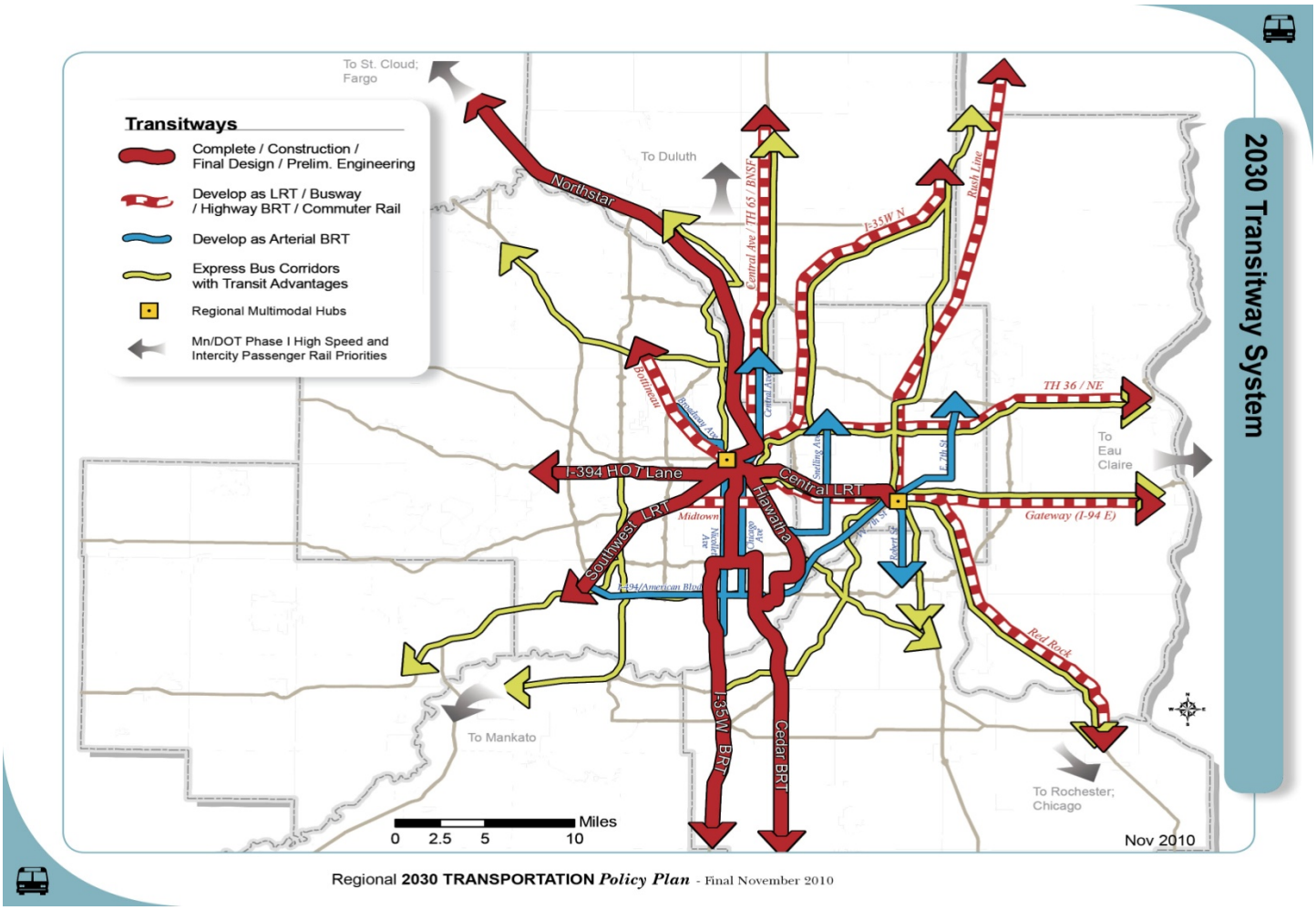
Eau Claire - Twin Cities;

Fargo/Moorhead - Twin Cities;

Northbound:							
Eau Claire		SPUD	MTI		F/M		Trainset
7:00 AM		8:15 AM	8:40 AM		12:05 PM		A
10:00 AM		11:15 AM	11:40 AM				B
1:00 PM		2:15 PM	2:40 PM		6:05 PM		C
4:00 PM		5:15 PM	5:40 PM				B
Southbound:							
F/M		MTI	SPUD		Eau Claire		
		7:15 AM	7:45 AM		9:00 AM		B
7:00 AM		10:15 AM	10:45 AM		12:00 PM		C
		1:15 PM	1:45 PM		3:00 PM		B
1:00 PM		4:15 PM	4:45 PM		6:00 PM		A

Trainsets Required:		3		Layovers:	1	MTI
					1	EC
					1	F/M

Appendix E:



Regional **2030 TRANSPORTATION** ***Policy Plan*** - Final November 2010

Appendix F:

Systemwide Conceptual Schedule - Arrivals at Platform

St. Paul Union Depot - SPUD

Codes:	CN	Chicago Northbound	CS	Chicago Southbound	
	MN	Mankato-St. Cloud Nbnd.	MS	Mankato-St. Cloud Sbnd.	
	EN	Eau Claire Northbound	ES	Eau Claire Sounthbound	
	DN	Duluth-Rochester Nbnd.	DS	Duluth-Rochester Sbnd.	
	NN	Northstar Northbound	NS	Northstar Southbound	
	RN	Red Rock Northbound	RS	Red Rock Southbound	
	GN	Gateway Nothbound	GS	Gateway Southbound	
	AN	Amtrak Empr. Bldr. Nbnd.	AS	Amtrak Empr. Bldr. Sbnd.	
Pro(2050)	HN	Amtrak NC Hiawatha Nbnd	HS	Amtrak NC Hiawatha Sbnd.	
Pro(2050)	SN	Amtrak Sioux Falls Nbnd.	SS	Amtrak Sioux Falls Sbnd.	

2035 Buildout:	**69 Trains**
2050 Buildout:	**75 Trains**

HOUR	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Trian	Arr. Time	Train
12:00 AM	12:49	CN																				
1:00 AM																						
2:00 AM																						
3:00 AM																						
4:00 AM																						
5:00 AM	5:42	CS																				
6:00 AM	6:04	CN	6:40	GN	6:50	RN																
7:00 AM	7:20	CS	7:00	DS	7:05	AS	7:10	GN	7:20	RN	7:30	DN	7:40	MN	7:40	GN	7:45	ES	7:50	RN		
8:00 AM	8:00	DS	8:00	DN	8:10	GN	8:15	EN	8:20	MS	8:20	RN	8:50	SN	8:54	CS						
9:00 AM	9:05	SS	9:20	DN	9:30	DS																
10:00 AM	10:45	ES																				
11:00 AM	11:00	MN	11:04	CS	11:15	EN	11:30	DS	11:30	DN												
12:00 PM	12:04	CN	12:20	MS	12:34	CS																
1:00 PM	1:30	DS	1:45	ES																		
2:00 PM	2:00	DN	2:15	EN	2:17	CN	2:30	HN	2:50	SS												
3:00 PM	3:05	SN	3:05	HS	3:15	DS	3:20	MS	3:55	CS	3:57	CN										
4:00 PM	4:00	DN	4:00	MN	4:05	RS	4:15	GS	4:15	CN	4:35	RS	4:45	GS	4:45	ES						
5:00 PM	5:00	DS	5:05	RS	5:15	GS	5:15	EN	5:30	DN	5:50	RS										
6:00 PM	6:00	GS	6:06	CS	6:40	MN	6:45	DS	6:48	CN												
7:00 PM	7:30	DN																				
8:00 PM	8:00	DS	8:20	MS	8:30	DN																
9:00 PM	9:00	DN																				
10:00 PM	10:30	AN																				
11:00 PM	11:01	CN	11:20	CS																		

Appendix G:

Systemwide Conceptual Schedule - Arrivals at Platform

Minneapolis Transportation Interchange - MTI

Codes:	CN	Chicago Northbound	CS	Chicago Southbound
	MN	Mankato-St. Cloud Nbnd.	MS	Mankato-St. Cloud Sbnd.
	EN	Eau Claire Northbound	ES	Eau Claire Sounthbound
	DN	Duluth-Rochester Nbnd.	DS	Duluth-Rochester Sbnd.
	NN	Northstar Northbound	NS	Northstar Southbound
	RN	Red Rock Northbound	RS	Red Rock Southbound
	GN	Gateway Nothbound	GS	Gateway Southbound
	AN	Amtrak Empr. Bldr. Nbnd.	AS	Amtrak Empr. Bldr. Sbnd.
Pro(2050)	HN	Amtrak NC Hiawatha Nbnd	HS	Amtrak NC Hiawatha Sbnd.
Pro(2050)	SN	Amtrak Sioux Falls Nbnd.	SS	Amtrak Sioux Falls Sbnd.

2035 Buildout:	**82 Trains**
2050 Buildout:	**86 Trains**

HOUR	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Train	Arr. Time	Trian	Arr. Time	Train
12:00 AM																						
1:00 AM	1:09	CN																				
2:00 AM																						
3:00 AM																						
4:00 AM																						
5:00 AM	5:22	CS	5:50	NS																		
6:00 AM	6:00	DN	6:24	CN	6:30	DS	6:40	NS	6:55	CS												
7:00 AM	7:00	GN	7:02	NN	7:10	NS	7:10	RN	7:15	ES	7:30	DS	7:30	DN	7:30	GN	7:40	NS	7:40	RN	7:50	MS
8:00 AM	8:00	GN	8:10	MN	8:10	NS	8:10	RN	8:20	SN	8:30	DN	8:30	GN	8:34	CS	8:40	EN	8:40	RN		
9:00 AM	9:00	DS	9:35	SN	9:50	DN																
10:00 AM	10:15	ES	10:44	CS																		
11:00 AM	11:00	DS	11:30	MN	11:40	EN	11:50	MS														
12:00 PM	12:00	DN	12:14	CS	12:24	CN																
1:00 PM	1:00	DS	1:15	ES																		
2:00 PM	2:30	DN	2:35	SN	2:37	CN	2:40	EN	2:45	DS	2:50	MS										
3:00 PM	3:20	SN	3:35	CS	3:45	RS	3:55	GS														
4:00 PM	4:17	CN	4:15	ES	4:15	RS	4:25	GS	4:30	MN	4:30	DS	4:30	DN	4:45	RS	4:46	NN	4:55	GS		
5:00 PM	5:16	NN	5:30	RS	5:40	EN	5:40	GS	5:46	CS	5:46	NN	5:55	NS								
6:00 PM	6:00	DN	6:15	DS	6:16	NN																
7:00 PM	7:04	NN	7:08	CN	7:10	MN	7:30	DS	7:30	DN	7:50	MS										
8:00 PM	8:00	DN																				
9:00 PM	9:10	CN	9:30	DN	9:45	DS																
10:00 PM	10:15	CN																				
11:00 PM	11:00	CS	11:21	CN																		

Appendix H:

Timeline: Tentative Implementation of Minnesota Passenger Rail System Components

Existing or in active planning, Intercity passenger and commuter rail (FRA & FTA)

Service	Plan/RGU	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2025	2030	2035	2050
Amtrack Empire Builder	Federal	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Northstar Commuter Rail	Met. Coun.	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Minneapolis-Duluth (NLX)	MnSRP							■	■	■	■	■	■	■	■
Chicago-Twin Cities (MWRRI)*	SRP-Reg.								■	■	■	■	■	■	■
TC-Eau Claire	MnSRP								■	■	■	■	■	■	■
TC-St. Cloud	MnSRP									■	■	■	■	■	■
TC-Rochester	MnSRP										■	■	■	■	■
TC-Mankato	MnSRP											■	■	■	■
TC-Fargo/Moorhead	MnSRP												■	■	■
Red Rock Commuter (PE)	Metro Cnty										■	■	■	■	■
Gateway Commuter (IAA)	Metro Cnty											■	■	■	■
Amtrak-Sioux Falls (Vision)	Federal														■
Amtrak-N.C. Hiawatha (Vision)	Federal														■

* Mn/DOT interim estimate. **Implementation date to be confirmed by MWRRI in project timeline for Phase 8 Tier I planning updates in progress.**

Proposed but inactive:

Northstar Phase II	Second segment of commuter service found to have inadequate CE ratio, Big Lake to St. Cloud.
Rush Line-St. Paul to Pine County	AA recommends BRT for long distance commute, LRT in settled Metro area.
Bottineau Blvd. Transitway	AA recommends LRT solutions for selected route alternatives and an express BRT option.
Wilmar Intercity service	Not recommended under State Rail Plan criteria
Grand Forks Intercity Service	Not recommended under State Rail Plan criteria
Lakewood Commuter Rail	Corridor developed as BRT by Met. Council; planning for rail terminated
Young America Commuter Rail	Not recommended in Metropolitan Council Transportation Policy Plan
TH 65 (Bethel) Corridor	Mode not specified in Metropolitan Council Transportation Policy Plan, AA suggested
I-35W North Corridor	Mode not specified in Metropolitan Council Transportation Policy Plan, AA suggested
US 36 Northeast Corridor	Mode not specified in Metropolitan Council Transportation Policy Plan, AA suggested