TRANSPORTATION ADVISORY BOARD
Of the Metropolitan Council

Notice of a Meeting of the
TECHNICAL ADVISORY COMMITTEE
Wednesday, March 7, 2018
Metropolitan Council
9:00 A.M.

AGENDA

1. **Call to Order**
2. **Approval of Agenda**
3. **Approval of February 7, 2018 Minutes**
4. **TAB Report**
5. **Committee Reports**
   - **Executive Committee** (Lisa Freese, Chair)
   - **Planning Committee** (Jan Lucke, Chair)
     a. **2018-17 Functional Classification Change: Ramsey County**
   - **Funding & Programming Committee** (Paul Oehme, Chair)
     a. **2018-22 Scope Change: City of Minneapolis**
     b. **2018-23 Scope Change: Scott County**
     c. **Information: TIP Schedule**
6. **Special Agenda Items**
   - **TPP Overview** (Michelle Fure, MTS)
   - **Volkswagen Settlement Beneficiary Mitigation Draft Plan** (Amanda Smith, MPCA)
7. **Agency Reports**
8. **Other Business**
9. **Adjournment**

Click here to print all agenda items at once.

Streamlined Amendments going to TAB this month. Contact Joe Barbeau with questions at 651-602-1705.

Minutes of a Meeting of the
TECHNICAL ADVISORY COMMITTEE
Wednesday, February 7, 2018
9:00 A.M.

Members Present: Jack Forslund, Lyndon Robjent, Brian Sorenson, Ted Schoenecker, Carla Stueve, Lisa Freese, Jan Lucke, Elaine Koutsoukos, Steve Peterson, Michael Larson, Adam Harrington, Brian Isaacson, Amanda Smith, Bridget Rief, Dave Jacobson, Danny McCullough, Karl Keel, Paul Oehme, Michael Thompson, Kim Lindquist, Jen Hager, Jack Byers, Bill Dermody, Paul Kurtz (Excused: Jim Kosluchar, Steve Bot, Peter Dahlberg)

1. **Call to Order**

The meeting was called to order by Lisa Freese at 9:04 a.m.

2. **Approval of Agenda**

A motion to approve the agenda was moved by Dave Jacobson and seconded by Brian Isaacson. No discussion. Motion passed.

3. **Approval of Minutes**

A motion to approve the minutes was moved by Elaine Koutsoukos and seconded by Brian Isaacson. Motion passed.

4. **TAB Report**

Elaine Koutsoukos reported on the January 17 TAB meeting.

Committee Reports

A. **Executive Committee** (Lisa Freese, Chair)

Lisa Freese reported on the Executive Committee meeting. Ted Schoenecker from Ramsey County will be the new TAC Vice Chair. A scope change committee has been established to work on the process to assist Funding & Programming.

B. **Planning Committee** (Jan Lucke, Chair)

Jan Lucke reported the results of the Planning Committee.

2018-16 Airlake Long Term Comprehensive Plan. Jan Lucke introduced the item. There were no questions. Michael Larson moved and Bridget Rief seconded the recommended motion. Motion passed.

C. **Funding and Programming Committee** (Paul Oehme, Chair)

2018-10 Scope Change: Minneapolis 6th Street HSIP. Paul Oehme presented the item. Jack Byers moved and Adam Harrington seconded the recommended motion. Jen Hager provided comments on 2018-10, 2018-11, 2018-12, and 2018-13, saying that projects should not have a reduction in federal awards due

to project elements moving into other, immediate projects. There is no reduction to public benefit. There is lack of clarity on when project elements can be added. Carla Stueve asked if the HSIP was proactive or reactive. Steve Peterson responded that it had a cost/benefit component, so it is reactive. Lyndon Robjent said that the scope change committee will be evaluating whether or not this kind of action is needed for such a low dollar value change.

Jen Hager moved an amendment to amend the scope with no reduction in federal funding, and was seconded by Lyndon Robjent. Motion passed.

Vote on the original motion passed.

2018-11 TIP Amendment: Minneapolis 6th Street HSIP. Paul Oehme presented the item. Paul Oehme moved and Michael Thompson seconded the recommended motion. The motion will be modified to reflect the result of 2018-10. Motion passed.

2018-12 Scope Change: Minneapolis Protected Bikeway. Paul Oehme presented the item. Jack Byers moved and Brian Isaacson seconded the recommended motion. Lyndon Robjent asked which project elements were removed. Jen Hager responded that the project was originally going to be paint and candlesticks, but the MnDOT work on the bridge is installing concrete barriers for the protected bikeway.

Jen Hager moved to reduce the project by the difference of the cost, approximately $7,900. Brian Isaacson seconded. Amendment passed.

Original motion passed.

2018-13 TIP Amendment: Minneapolis Protected Bikeway. Paul Oehme presented the item. Paul Oehme moved and Jen Hager seconded. Motion passed.

2018-15 Regional Solicitation: Accept Public Comments. Paul Oehme presented the item. Ted Schoenecker moved and Michael Thompson seconded the recommended motion. Motion passed.

6. Special Agenda Items

Congestion Management Process Plan. (Dave Burns, MTS) Dave Burns presented on the CMP Plan RFP that will be released in the near future. Karl Keel suggested that the scope of the CMP should match the roadways under consideration for the Regional Solicitation. Ted Shoenecker asked what the CMP contributes that the TPP and Regional Solicitation do not do on congestion. Brian Isaacson responded that we have all the pieces, but they are currently not tied together. Ted Shoenecker asked how often this will be updated. Dave Burns responded that this is a continuous process; the CMP Plan will set the framework for the ongoing work. Lyndon Robjent and Brian Sorenson expressed concern with knowing in advance that the Regional Solicitation will have changes as a result of this work. Steve Peterson responded that all changes to the Solicitation will go through the standard process. Jan Lucke asked if the CMP will be used to evaluate MnDOT funding programs too. Steve Peterson responded that that remains unclear right now.

Lyndon Robjent said that it would be helpful to know if the historic percentage split between preservation and expansion should be changing. Steve Peterson said that the Council will be conducting

a before/after study this year to identify if projects have delivered what they promised. Lisa Freese said that Scott County does similar work on all of its projects.

7. **Agency Reports**

Adam Harrington thanked the local partners for the coordination for the Super Bowl.

Bridget Rief thanked the local partners for the coordination for the Super Bowl. 61,000 people used the MSP terminals on Monday, February 5. Having K9 units at TSA checkpoints was a significant help.

Brian Isaacson thanked the local partners for the coordination for the Super Bowl. On Saturday night before the game there were 229 plows on the road statewide, a new record. The I-94 project has a new manager, Gloria Jeffs. Corridors of Commerce projects have been collected and are currently being organized. Brian Isaacson will follow up with next steps for letters of support.

Jan Lucke announced that the Gold Line has moved into Project Development, thanks to the Council and other local partners.

8. **Other Business and Adjournment**

Elaine Kousoukos has TAB orientation meetings coming up; TAC members will be invited.

Steve Peterson thanked TAC members for comments on the TPP so far. Lyndon Robjent, Jack Lucke, and Lisa Freese thanked the Council for its outreach.

There being no other business, the meeting adjourned at 10:09AM.

Prepared by:

Katie White

ACTION TRANSMITTAL 2018-17

DATE:	February 27, 2018
TO:	Technical Advisory Committee
FROM:	Technical Advisory Committee - Planning
PREPARED BY:	Rachel Wiken, Planner 651-602-1572
SUBJECT:	Functional Class Changes – Lexington Parkway, #1355-1356
REQUESTED ACTION:	Ramsey County requests approval for Lexington Parkway to be classified as an A-Minor Augmentor from Larpenteur Avenue to Shepard Road *(#1355 existing alignment from Larpenteur Avenue to south of Albion Avenue, #1356 planned new alignment from south of Albion Avenue to Shepard Road)*
RECOMMENDED MOTION:	That TAC approve the change as requested.

BACKGROUND AND PURPOSE OF ACTION: Ramsey County is requesting a change for Lexington Parkway from Larpenteur Avenue to Shepard Road. The existing roadway is classified as an Other Arterial from Larpenteur Avenue to Montreal Avenue. Ramsey County is planning to realign the intersection of Lexington / Montreal / West 7th, which is currently a five-way intersection. By moving Lexington to the east (through the former Riverside School property), it would allow Lexington to intersect West 7th Street at a traditional four-way configuration. A planned road would continue south from West 7th on Ramsey County right-of-way, continuing on existing Elway Street (Major Collector) to connect with Shepard Road (Other Arterial) just to the west of I-35E.

This request is for an existing functional classification change for Lexington Parkway from Larpenteur Avenue to the new alignment at the school property (just south of Albion Avenue). The new alignment and the tail on Elway Street would be changed to a planned A-Minor Augmentor.

STAFF ANALYSIS:
Lexington Parkway connects Como Park and several major shopping areas at University, Grand, and Randolph. The road is currently carrying short to medium trips within the City of St. Paul. It is functioning very similarly to how the road functions to the north in Roseville, a section that is already A-Minor Augmentor.

Spacing is consistent with guidelines. There are A-Minor/Other arterials every half mile in this urban area. Other north-south roads in the area are Augmentors (e.g., Snelling, Cleveland) and several east-west Augmentors (e.g., Randolph, Montreal, Larpenteur)

intersect with Lexington. Like other arterials in this part of the region, access spacing is less than ideal.

Traffic volumes are consistent with A-Minor designation. The portion between Montreal and Randolph has the lowest volume (7,500 AADT). Sections to the north of Randolph range from 12,000 to 34,000 AADT, which is at or higher than other A-Minor Augmentors in the area. Ramsey County did not submit any data on how the planned realignment and Shepard Road connection would change traffic volumes on Lexington.

Lexington closely parallels I-35E from Randolph to the new proposed Shepard connection. Improvements to signals and connections might make this segment of the road function as a Reliever more than an Augmentor during congested times.

The southern segment (James to Montreal) already has bike lanes and the City is considering adding them to the section from James to St Clair. It is unclear how the possible increased traffic and speeds would align with the City's plan to improve multimodal infrastructure on the road.

MNDOT COMMENTS:
MnDOT supports the proposed functional classification changes and the re-route of Lexington Avenue, which simplifies the current five-way intersection with TH 5 and Montreal Avenue.

1. MnDOT will allow this change as long as the current Lexington Avenue access to the current five-way intersection is removed when the re-route opens.
2. The County should work with the City of St. Paul and MnDOT regarding changes to the existing signal at Albion Avenue. This signal would be less than 300 feet away from the proposed new Lexington/West 7th Street/Elway Street intersection.

COMMITTEE COMMENTS AND ACTION: TAC Planning concurred with staff and MnDOT comments and moved to recommend approval.

ROUTING

TO	ACTION REQUESTED	DATE COMPLETED
TAC Planning	Review and Recommend	2-8-18
Technical Advisory Committee	Approve	

ACTION TRANSMITTAL No. 2018-22

DATE:	February 22, 2018
TO:	Technical Advisory Committee
FROM:	TAC Funding and Programming Committee
PREPARED BY:	Joe Barbeau, Senior Planner (651-602-1705)
SUBJECT:	Scope Change Request for Minneapolis's North Loop Pedestrian Improvements Project
REQUESTED ACTION:	The City of Minneapolis requests a scope change to its North Loop Pedestrian Improvements Project (SP # 141-030-042) to eliminate seven pedestrian curb ramps and a pedestrian median.
RECOMMENDED MOTION:	That the Technical Advisory Committee recommend to the Transportation Advisory Board approval of a scope change request for the City of Minneapolis's North Loop Improvements Project (SP # 141-030-042) to eliminate seven pedestrian curb ramps and a pedestrian median.

BACKGROUND AND PURPOSE OF ACTION: The City of Minneapolis was awarded $1,000,000 ($1,080,000 after inflation adjustment) in Surface Transportation Block Grant funds for its North Loop Pedestrian Improvements Project in the 2014 Regional Solicitation. The project is programmed for fiscal year 2019. The project was awarded to install curb extensions and/or achieve ADA compliance at 23 intersections. While few specific improvements at specific intersections were named, one such instance was a pedestrian median at the intersection of 2nd Street North and 7th Avenue North. The City wishes to eliminate seven of the 23 intersections, along with that pedestrian median. The seven intersections are being completed in another local project (also scheduled for 2019) while the median is being eliminated to prevent removal of street parking and a lane design unconducive with its urban surroundings.

The City also wishes to add a signal replacement, sidewalk work (two locations) and accessible pedestrian signal (APS) push buttons (two locations) to the project scope. The illustration on page 5 shows locations where elements are proposed to be retained, removed, and added.

RELATIONSHIP TO REGIONAL POLICY: Projects that receive funding through the Regional Solicitation process are subject to the regional scope change policy. The purpose of this policy is to ensure that the project is designed and constructed according to the plans and intent described in the original application. Additionally, federal rules require that any federally-funded project scope change must go through a formal review and TIP amendment process if the project description or total project cost changes substantially. The scope change policy and process allow project sponsors to adjust their projects as needed while still providing substantially the same benefits described in their original project applications.

A TIP amendment does not accompany this request because this is a 2019 project and any changes to the TIP description will be added to the draft 2019-2023 TIP.

STAFF ANALYSIS:

Scoring: This project scored 788 points out of 1,000 and was the second-ranked project out of four applications. All four pedestrian applications were funded.

Funding: The City is stating that this project will now cost $2,257,440, $240,000 more than the inflation-adjusted original project amount. This comes from its showing the removed items at a total of $250,000 and the added items at $490,000. Because of the $1,000,000 award maximum (prior to inflation adjustment), the project was only 54% federal.

1. **Applicant Option A**: No change in federal funding amount after eliminating the $250,000 for items removed and crediting for the additional items.
2. **Applicant Option B**: Decrease federal funding by $200,000 (80% of the $250,000 for items removed) bringing the total federal award to $880,000.
3. **Staff-Adjusted Option C:** Decrease federal funding by $133,833 (54%, which was the original proportionate federal award) of the $250,000 for items removed) bringing the total federal award) to $946,167.

COMMITTEE COMMENTS AND ACTION: At its February 22, 2018, meeting, the Funding & Programming Committee voted unanimously to recommend approval of the scope change request with no reduction in federal funding with signal replacement ineligible for federal funds.

ROUTING

TO	ACTION REQUESTED	COMPLETION DATE
TAC Funding & Programming Committee	Review & Recommend	2/22/2018
Technical Advisory Committee	Review & Recommend	
Transportation Advisory Board	Review & Approve	

ACTION TRANSMITTAL No. 2018-23

DATE:	February 22, 2018
TO:	Technical Advisory Committee
FROM:	TAC Funding and Programming Committee
PREPARED BY:	Joe Barbeau, Senior Planner (651-602-1705)
SUBJECT:	Scope Change Request for Scott County's CSAH 21 / TH 13 Intersection Project
REQUESTED ACTION:	Scott County requests a scope change to its CSAH 21 / TH 13 Intersection Project (SP # 070-621-032) to adjust the project limits, change two signals to roundabouts, and adjust intersection access.
RECOMMENDED MOTION:	That the Technical Advisory Committee recommend to the Transportation Advisory Board approval of a scope change request for Scott County's CSAH 21 / TH 13 Intersection Project (SP # 070-621-032) to adjust the project limits, change two signals to roundabouts, and adjust intersection access.

BACKGROUND AND PURPOSE OF ACTION: Scott County was awarded $4,929,040 in Surface Transportation Block Grant funds for the 2020 fiscal year in the Roadway Reconstruction/Modernization category of the 2016 Regional Solicitation. The award was to make the following changes at and near the intersection of CSAH 21 and TH 13 in Prior Lake:

1. Reconstruct the CSAH 21/TH 13 intersection
2. Reconstruct the CSAH 21 intersection with Main Avenue to right-in/right-out
3. Replace and add traffic signals at the CSAH 21 intersections with TH 13 and Arcadia Avenue
4. Adjust TH 13 intersection with Pleasant Street to 3/4 access
5. Construct turn lanes, trail/sidewalks, pedestrian amenities, and transit amenities

Following public review, the County would like to make the following changes to the project's scope:

- Change the western limits from Arcadia Avenue to West Avenue to include pavement rehabilitation work and construction of a 3/4 access intersection at Duluth Avenue.
- Change the southern limits on TH 13 from Pleasant Avenue to Franklin Trail.
- Change the signal at CSAH 21 and Arcadia from a signal to a roundabout.
- Change the signal at CSAH 21 and TH 13 from a signal to a roundabout.
- Change the right-in/right-out at Main to a 3/4 intersection for northbound traffic on Main.

RELATIONSHIP TO REGIONAL POLICY: Projects that receive funding through the Regional Solicitation process are subject to the regional scope change policy. The purpose of this policy is to ensure that the project is designed and constructed according to the plans and intent described in the original application. Additionally, federal rules require that any federally-funded project scope change must go through a formal review and TIP amendment process if the project description or total project cost changes substantially. The scope change policy and process allow project sponsors to adjust their projects as needed while still providing substantially the same benefits described in their original project applications. The HSIP solicitation process and list of funded projects are approved by TAB. However,

MnDOT Metro District manages the region's HSIP solicitation scoring and project ranking process on behalf of TAB and the Metropolitan Council.

A TIP amendment does not accompany this request because this is a 2020 project.

STAFF ANALYSIS:

Scoring: This project scored 568 points out of 1,100 and had a 56-point scoring gap over the highest un-funded project in the Roadway Reconstruction/Modernization category (Minneapolis's 37th Avenue Reconstruction, which scored 512). No scorers reported a significant score reduction and the project would score at least 542 points.

Funding: Given the minor changes to the periphery of the project area, no alternate amounts are shown.

COMMITTEE COMMENTS AND ACTION: At its February 22, 2018, meeting, the Funding & Programming Committee voted unanimously to recommend approval of the scope change request.

ROUTING

TO	ACTION REQUESTED	COMPLETION DATE
TAC Funding & Programming Committee	Review & Recommend	2/22/2018
Technical Advisory Committee	Review & Recommend	
Transportation Advisory Board	Review & Approve	

SCOTT COUNTY TRANSPORTATION SERVICES DIVISION

COUNTY HIGHWAYS, MOBILITY MANAGMENT, FLEET
600 COUNTRY TRAIL EAST • JORDAN, MN 55352-9339
(952) 496-8346 • Fax: (952) 496-8365 • www.scottcountymn.gov

LISA J. FREESE
Transportation Services Director

ANTHONY J. WINIECKI, P.E.
County Engineer

TROY BEAM
Mobility Services/Fleet Mgr.

January 16, 2018

Mr. Paul Oehme
Chair, TAC Funding and Programming Committee
Metropolitan Council
390 Robert Street North
St. Paul, MN 55101

RE Scope Change Request
SP 070-621-032
CSAH 21 and TH 13

Dear Mr. Oehme

Scott County respectfully requests that the Metropolitan Council TAC Funding and Programming Committee consider the attached Scope Change request for the above referenced project.

Due to an extensive public involvement process and pavement projects planned for both CSAH 21 and TH 13, there is a need to submit a scope change request. The public involvement process brought all of the stakeholders together including the Prior Lake Downtown businesses to develop a plan that was supported by the City Council, residents, and downtown businesses. The pavement projects on TH 13 and CSAH 21 offer a coordination and cost savings opportunity to be realized.

Please consider the requested scope change at your next available TAC Funding and Programming Committee meeting.

Sincerely,

Anthony J. Winiecki
Scott County Engineer

Scope Change Request
CSAH 21 and TH 13 – FY 2020

Location Map
A location map of the project is attached as Exhibit A.

Project Layout
A layout showing the original application is attached as Exhibit B.
A layout showing the revised project elements is attached as Exhibit C.

Current TIP Description
RECONSTRUCT CSAH 21/TH 13 INTERSECTION IN PRIOR LAKE INCLUDING ON CSAH 21 FROM ARCADIA AVE INTERSECTION TO FRANKLIN TRAIL E OF MN 13 - RECONSTRUCT INTERSECTION WITH MAIN AVE TO RIGHT-IN/RIGHTOUT, REPLACE/ADD TRAFFIC SIGNALS AT TH 13 & ARCADIA AVE INTERSECTION, ¾ INTERSECTION AT TH 13 & PLEASANT ST, TURN LANES, TRAIL/SIDEWALKS, PED AND TRANSIT AMENITIES

Background
Scott County was awarded funding for the intersection of CSAH 21 and TH 13 in the 2016 Regional Solicitation under the Modernization category. CSAH 21 is a Minor Arterial roadway from the eastern Scott County line to TH 169. The project involves improving the intersection of CSAH 21 and TH 13 and intersections on CSAH 21 west of TH 13 to Arcadia Avenue. Today TH 13 is a two lane roadway and CSAH 21 is a four lane undivided roadway. The intersection is split phase due to the lack of turn lanes on CSAH 21 and historic crashes at this intersection.

Public Involvement Driven Changes
Upon receiving funding the County started developing a design schedule that was very heavy on the public involvement process. The objective was to be context sensitive to the downtown Prior Lake businesses and community while also evaluating the regional traffic issues and needs. Over the course of the public involvement process, a total of five different concepts, including the original federal application concept were evaluated for operations and benefits and challenges. With the roundabout options there was no longer a need to relocate Pleasant further south through a wetland/poor soils for vehicle storage because of the increase in efficiency of the roundabout at TH 13 and CSAH 21.

During the public involvement process there were safety concerns with the intersection of CSAH 21 and Duluth Avenue approximately 420 feet west of Arcadia. With the roundabout now planned at Arcadia instead of a signal, the intersection of Duluth Avenue to the west can be converted from a full access to a ¾ access.

The City of Prior Lake also hired an independent consulting firm to conduct an evaluation of the alternatives. In the end, the City of Prior Lake and the public supported the changes to roundabouts vs signaled intersections, the ¾ access at both Duluth and Main.

The layout has been to the MnDOT layout review committee for comments.

Rehabilitation Area

In late 2016, the County's design group started investigating the right maintenance fix to road flooding being experienced on CSAH 21 near West Avenue in recent years. In 2017 through analysis it was discovered the pavement had sunk three feet vertically and shifted over one foot horizontally over the last 25 years which is the cause of the recent road flooding. Due to efficiencies in project delivery of this maintenance rehabilitation project, and avoiding multiple closures, the County proposes to increase the western limits of CSAH 21 from Arcadia to West Avenue (approx. 1,500 feet) to be included into the project.

MnDOT Pavement Project

MnDOT has a programmed 14.4 mile reclamation project scheduled on TH 13 from CSAH 21 south planned for 2019. In attempting to coordinate with MnDOT on these projects, the County has agreed to add a section of the TH 13 reclamation work from the CSAH 21/TH 13 project limits to where MnDOT's project will end. This additional work would make logical termini for each project.

Scope Change Elements

The requested elements for the scope change is for the following:

- Change the western limits from Arcadia to West Avenue to include pavement rehabilitation work and intersection at Duluth.
- Change the southern limits on TH 13 from Pleasant Avenue to Franklin Trail.
- Change the Signal at CSAH 21 and Arcadia from a signal to a roundabout.
- Change the Signal at CSAH 21 and TH 13 from a signal to a roundabout.
- Change the right-in/right-out at Main to a ¾ intersection for northbound traffic on Main.

Proposed TIP Description Changes

RECONSTRUCT CSAH 21/TH 13 INTERSECTION IN PRIOR LAKE INCLUDING ON CSAH 21 FROM ~~ARCADIA~~ WEST AVE INTERSECTION TO FRANKLIN TRAIL E OF MN 13 - RECONSTRUCT INTERSECTION WITH MAIN AVE TO ~~RIGHT-IN/RIGHTOUT~~, ¾ INTERSECTION, ~~REPLACE/ADD TRAFFIC SIGNALS~~ ROUNDABOUTS AT TH 13 & ARCADIA AVE INTERSECTION, ¾ INTERSECTION AT TH 13 & PLEASANT ST, TURN LANES, TRAIL/SIDEWALKS, PED AND TRANSIT AMENITIES

Summary

This project still completes the work within the original application. The County does not request additional Federal funds. The project does change the scope from signals to roundabouts and increases limits due to pavement needs.

Cost Estimate

CSAH 21/TH13: $6,800,000
Paving CSAH 21: $ 343,508
Paving on TH 13: $ 80,000

Current TIP Funding:
TOTAL $6,654,204
FHWA $4,929,040
OTHER $1,725,164

Proposed TIP Funding:
TOTAL: $7,223,508
FHWA: $4,929,040
OTHER: $2,294,468

DRAFT
5/31/2016
For Evaluation Purposes

Original Application

DAKOTA ST

ARCADIA AVE

(EAGLE CREEK BLVD)
CH 21

COLORADO ST

FUTURE PARK
& POOL LOT

MAIN AVE

PLEASANT ST

TH 13

MATCH LINE SEE INSET A

EVANSTON AVE SE

CREDIT RIVER RD SE

(EAGLE CREEK BLVD)
CH 21

FRANKLIN TR

INSET A

MAIN AVE

MATCH LINE

N

SCOTT COUNTY, MN

PROJECT LOCATION

LEGEND

- ROADWAY
- CONCRETE SIDEWALK
- CONCRETE CURB/ MEDIAN/ DRIVEWAY
- BITUMINOUS TRAIL
- LANDSCAPING
- MILL AND OVERLAY
- SHOULDER
- RETAINING WALL
- TRAFFIC SIGNAL

0 100 200
SCALE FEET

Scott

FIGURE 1
PRELIMINARY DESIGN CONCEPT 1
SCOTT CO. C.S.A.H. 21 AT TH 13
2016 REGIONAL SOLICITATION
PRIOR LAKE, MN

BOLTON & MENK
Engineers & Surveyors

PROPOSAL

SCOTT COUNTY PAVEMENT SETTLEMENT PROJECT

ADDITIONAL RECONSTRUCTION WORK

MNDOT T.H. 13 RECONSTRUCTION PROJECT

WEST AVE
DAKOTA ST SE
ARCADIA AVE
ERIE AVE SE
MAIN AVE SE
HASTINGS AVE SE
EVANSTON AVE SE
MINNESOTA ST SE
EAGLE CREEK AVE SE
CREDIT RIVER RD SE
COLORADO ST SE
PLEASANT ST SE
DULUTH AVE SE
BLUFF HEIGHTS TRAIL SE
TIMBER CREST DR SE
FRANKLIN TRAIL SE
LYONS AVE SE

PRIOR LAKE CITY HALL
PRIOR LAKE POLICE DEPT
PRIOR LAKE PUBLIC LIBRARY
ROD DEHMLOW AUTO
SHELL GAS
THE VINTAGE GYPSY
D COPPERFIELD JEWELERS
THRIVENT FINANCIAL
REMAX
GRAINWOOD ELEMENTARY
PREMIERE DANCE ACADEMY
T-SHIRTS & MORE
STATE FARM
LINTEGRA
CARLSON HARDWARE
VIKING LIQUOR
BARREL
FONG'S RESTAURANT

EXISTING SPEED LIMIT 40
EXISTING SPEED LIMIT 50
EXISTING SPEED LIMIT 50

SCALE 0 150 300 FEET

DEPARTMENT OF TRANSPORTATION | Scott | BOLTON & MENK

CH 21/TH 13 DESIGN CONCEPT
PRIOR LAKE, MN

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ACTION TRANSMITTAL No. 2018-23

DATE:	February 22, 2018
TO:	Technical Advisory Committee
FROM:	TAC Funding and Programming Committee
PREPARED BY:	Joe Barbeau, Senior Planner (651-602-1705)
SUBJECT:	Scope Change Request for Scott County's CSAH 21 / TH 13 Intersection Project
REQUESTED ACTION:	Scott County requests a scope change to its CSAH 21 / TH 13 Intersection Project (SP # 070-621-032) to adjust the project limits, change two signals to roundabouts, and adjust intersection access.
RECOMMENDED MOTION:	That the Technical Advisory Committee recommend to the Transportation Advisory Board approval of a scope change request for Scott County's CSAH 21 / TH 13 Intersection Project (SP # 070-621-032) to adjust the project limits, change two signals to roundabouts, and adjust intersection access.

BACKGROUND AND PURPOSE OF ACTION: Scott County was awarded $4,929,040 in Surface Transportation Block Grant funds for the 2020 fiscal year in the Roadway Reconstruction/Modernization category of the 2016 Regional Solicitation. The award was to make the following changes at and near the intersection of CSAH 21 and TH 13 in Prior Lake:

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2. Reconstruct the CSAH 21 intersection with Main Avenue to right-in/right-out
3. Replace and add traffic signals at the CSAH 21 intersections with TH 13 and Arcadia Avenue
4. Adjust TH 13 intersection with Pleasant Street to 3/4 access
5. Construct turn lanes, trail/sidewalks, pedestrian amenities, and transit amenities

Following public review, the County would like to make the following changes to the project's scope:

- Change the western limits from Arcadia Avenue to West Avenue to include pavement rehabilitation work and construction of a 3/4 access intersection at Duluth Avenue.
- Change the southern limits on TH 13 from Pleasant Avenue to Franklin Trail.
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- Change the signal at CSAH 21 and TH 13 from a signal to a roundabout.
- Change the right-in/right-out at Main to a 3/4 intersection for northbound traffic on Main.

RELATIONSHIP TO REGIONAL POLICY: Projects that receive funding through the Regional Solicitation process are subject to the regional scope change policy. The purpose of this policy is to ensure that the project is designed and constructed according to the plans and intent described in the original application. Additionally, federal rules require that any federally-funded project scope change must go through a formal review and TIP amendment process if the project description or total project cost changes substantially. The scope change policy and process allow project sponsors to adjust their projects as needed while still providing substantially the same benefits described in their original project applications. The HSIP solicitation process and list of funded projects are approved by TAB. However,

MnDOT Metro District manages the region's HSIP solicitation scoring and project ranking process on behalf of TAB and the Metropolitan Council.

A TIP amendment does not accompany this request because this is a 2020 project.

STAFF ANALYSIS:

Scoring: This project scored 568 points out of 1,100 and had a 56-point scoring gap over the highest un-funded project in the Roadway Reconstruction/Modernization category (Minneapolis's 37th Avenue Reconstruction, which scored 512). No scorers reported a significant score reduction and the project would score at least 542 points.

Funding: Given the minor changes to the periphery of the project area, no alternate amounts are shown.

COMMITTEE COMMENTS AND ACTION: At its February 22, 2018, meeting, the Funding & Programming Committee voted unanimously to recommend approval of the scope change request.

ROUTING

TO	ACTION REQUESTED	COMPLETION DATE
TAC Funding & Programming Committee	Review & Recommend	2/22/2018
Technical Advisory Committee	Review & Recommend	
Transportation Advisory Board	Review & Approve	

SCOTT COUNTY TRANSPORTATION SERVICES DIVISION

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LISA J. FREESE
Transportation Services Director

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TROY BEAM
Mobility Services/Fleet Mgr.

January 16, 2018

Mr. Paul Oehme
Chair, TAC Funding and Programming Committee
Metropolitan Council
390 Robert Street North
St. Paul, MN 55101

RE Scope Change Request
SP 070-621-032
CSAH 21 and TH 13

Dear Mr. Oehme

Scott County respectfully requests that the Metropolitan Council TAC Funding and Programming Committee consider the attached Scope Change request for the above referenced project.

Due to an extensive public involvement process and pavement projects planned for both CSAH 21 and TH 13, there is a need to submit a scope change request. The public involvement process brought all of the stakeholders together including the Prior Lake Downtown businesses to develop a plan that was supported by the City Council, residents, and downtown businesses. The pavement projects on TH 13 and CSAH 21 offer a coordination and cost savings opportunity to be realized.

Please consider the requested scope change at your next available TAC Funding and Programming Committee meeting.

Sincerely,

Anthony J. Winiecki
Scott County Engineer

Scope Change Request
CSAH 21 and TH 13 – FY 2020

Location Map
A location map of the project is attached as Exhibit A.

Project Layout
A layout showing the original application is attached as Exhibit B.
A layout showing the revised project elements is attached as Exhibit C.

Current TIP Description
RECONSTRUCT CSAH 21/TH 13 INTERSECTION IN PRIOR LAKE INCLUDING ON CSAH 21 FROM ARCADIA AVE INTERSECTION TO FRANKLIN TRAIL E OF MN 13 - RECONSTRUCT INTERSECTION WITH MAIN AVE TO RIGHT-IN/RIGHTOUT, REPLACE/ADD TRAFFIC SIGNALS AT TH 13 & ARCADIA AVE INTERSECTION, ¾ INTERSECTION AT TH 13 & PLEASANT ST, TURN LANES, TRAIL/SIDEWALKS, PED AND TRANSIT AMENITIES

Background
Scott County was awarded funding for the intersection of CSAH 21 and TH 13 in the 2016 Regional Solicitation under the Modernization category. CSAH 21 is a Minor Arterial roadway from the eastern Scott County line to TH 169. The project involves improving the intersection of CSAH 21 and TH 13 and intersections on CSAH 21 west of TH 13 to Arcadia Avenue. Today TH 13 is a two lane roadway and CSAH 21 is a four lane undivided roadway. The intersection is split phase due to the lack of turn lanes on CSAH 21 and historic crashes at this intersection.

Public Involvement Driven Changes
Upon receiving funding the County started developing a design schedule that was very heavy on the public involvement process. The objective was to be context sensitive to the downtown Prior Lake businesses and community while also evaluating the regional traffic issues and needs. Over the course of the public involvement process, a total of five different concepts, including the original federal application concept were evaluated for operations and benefits and challenges. With the roundabout options there was no longer a need to relocate Pleasant further south through a wetland/poor soils for vehicle storage because of the increase in efficiency of the roundabout at TH 13 and CSAH 21.

During the public involvement process there were safety concerns with the intersection of CSAH 21 and Duluth Avenue approximately 420 feet west of Arcadia. With the roundabout now planned at Arcadia instead of a signal, the intersection of Duluth Avenue to the west can be converted from a full access to a ¾ access.

The City of Prior Lake also hired an independent consulting firm to conduct an evaluation of the alternatives. In the end, the City of Prior Lake and the public supported the changes to roundabouts vs signaled intersections, the ¾ access at both Duluth and Main.

The layout has been to the MnDOT layout review committee for comments.

Rehabilitation Area

In late 2016, the County's design group started investigating the right maintenance fix to road flooding being experienced on CSAH 21 near West Avenue in recent years. In 2017 through analysis it was discovered the pavement had sunk three feet vertically and shifted over one foot horizontally over the last 25 years which is the cause of the recent road flooding. Due to efficiencies in project delivery of this maintenance rehabilitation project, and avoiding multiple closures, the County proposes to increase the western limits of CSAH 21 from Arcadia to West Avenue (approx. 1,500 feet) to be included into the project.

MnDOT Pavement Project

MnDOT has a programmed 14.4 mile reclamation project scheduled on TH 13 from CSAH 21 south planned for 2019. In attempting to coordinate with MnDOT on these projects, the County has agreed to add a section of the TH 13 reclamation work from the CSAH 21/TH 13 project limits to where MnDOT's project will end. This additional work would make logical termini for each project.

Scope Change Elements

The requested elements for the scope change is for the following:

- Change the western limits from Arcadia to West Avenue to include pavement rehabilitation work and intersection at Duluth.
- Change the southern limits on TH 13 from Pleasant Avenue to Franklin Trail.
- Change the Signal at CSAH 21 and Arcadia from a signal to a roundabout.
- Change the Signal at CSAH 21 and TH 13 from a signal to a roundabout.
- Change the right-in/right-out at Main to a ¾ intersection for northbound traffic on Main.

Proposed TIP Description Changes

RECONSTRUCT CSAH 21/TH 13 INTERSECTION IN PRIOR LAKE INCLUDING ON CSAH 21 FROM ~~ARCADIA~~ WEST AVE INTERSECTION TO FRANKLIN TRAIL E OF MN 13 - RECONSTRUCT INTERSECTION WITH MAIN AVE TO ~~RIGHT-IN/RIGHTOUT~~, ¾ INTERSECTION, ~~REPLACE/ADD TRAFFIC SIGNALS~~ ROUNDABOUTS AT TH 13 & ARCADIA AVE INTERSECTION, ¾ INTERSECTION AT TH 13 & PLEASANT ST, TURN LANES, TRAIL/SIDEWALKS, PED AND TRANSIT AMENITIES

Summary

This project still completes the work within the original application. The County does not request additional Federal funds. The project does change the scope from signals to roundabouts and increases limits due to pavement needs.

Cost Estimate

CSAH 21/TH13: $6,800,000
Paving CSAH 21: $ 343,508
Paving on TH 13: $ 80,000

Current TIP Funding:
TOTAL $6,654,204
FHWA $4,929,040
OTHER $1,725,164

Proposed TIP Funding:
TOTAL: $7,223,508
FHWA: $4,929,040
OTHER: $2,294,468

DRAFT
5/31/2016
For Evaluation Purposes

Original Application

DAKOTA ST

ARCADIA AVE

(EAGLE CREEK BLVD)
CH 21

COLORADO ST

FUTURE PARK
& POOL LOT

MAIN AVE

PLEASANT ST

TH 13

MATCH LINE SEE INSET A

EVANSTON AVE SE

CREDIT RIVER RD SE

(EAGLE CREEK BLVD)
CH 21

FRANKLIN TR

INSET A

MAIN AVE

MATCH LINE

N

SCOTT COUNTY, MN

PROJECT LOCATION

LEGEND

- ROADWAY
- CONCRETE SIDEWALK
- CONCRETE CURB/ MEDIAN/ DRIVEWAY
- BITUMINOUS TRAIL
- LANDSCAPING
- MILL AND OVERLAY
- SHOULDER
- RETAINING WALL
- TRAFFIC SIGNAL

0 100 200
SCALE FEET

Scott

FIGURE 1
PRELIMINARY DESIGN CONCEPT 1
SCOTT CO. C.S.A.H. 21 AT TH 13
2016 REGIONAL SOLICITATION
PRIOR LAKE, MN

BOLTON & MENK
Engineers & Surveyors

PROPOSAL

SCOTT COUNTY PAVEMENT SETTLEMENT PROJECT

ADDITIONAL RECONSTRUCTION WORK

MNDOT T.H. 13 RECONSTRUCTION PROJECT

WEST AVE
DAKOTA ST SE
ARCADIA AVE
ERIE AVE SE
MAIN AVE SE
HASTINGS AVE SE
EVANSTON AVE SE
MINNESOTA ST SE
EAGLE CREEK AVE SE
CREDIT RIVER RD SE
COLORADO ST SE
PLEASANT ST SE
DULUTH AVE SE
BLUFF HEIGHTS TRAIL SE
TIMBER CREST DR SE
FRANKLIN TRAIL SE
LYONS AVE SE

PRIOR LAKE CITY HALL
PRIOR LAKE POLICE DEPT
PRIOR LAKE PUBLIC LIBRARY
ROD DEHMLOW AUTO
SHELL GAS
THE VINTAGE GYPSY
D COPPERFIELD JEWELERS
THRIVENT FINANCIAL
REMAX
GRAINWOOD ELEMENTARY
PREMIERE DANCE ACADEMY
T-SHIRTS & MORE
STATE FARM
LINTEGRA
CARLSON HARDWARE
VIKING LIQUOR
BARREL
FONG'S RESTAURANT

EXISTING SPEED LIMIT 40
EXISTING SPEED LIMIT 50
EXISTING SPEED LIMIT 50

SCALE 0 150 300 FEET

DEPARTMENT OF TRANSPORTATION | Scott | BOLTON & MENK

CH 21/TH 13 DESIGN CONCEPT
PRIOR LAKE, MN

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INFORMATION ITEM

DATE: February 23, 2018

TO: Technical Advisory Committee

PREPARED BY: Joe Barbeau, Senior Planner (651-602-1705)

SUBJECT: 2019-2022 TIP Development Schedule

Federal regulations require that a Transportation Improvement Program (TIP) be developed at least every four years. The Metropolitan Council revises its TIP every year in conjunction with the Minnesota Department of Transportation's State Transportation Improvement Program (STIP). The below schedule includes the major dates in the development process for the 2019-2022 TIP.

2019-2022 TIP/STIP ADOPTION SCHEDULE (All dates are in 2018)

DATE	ITEM	ORGANIZATION	ACTION/TOPIC
Mar-Apr	TIP development	MC /MnDOT Staff	❑ MnDOT finalizes draft TIP/STIP data and provides to Council. Council develops draft TIP.
May 17	Draft 2019-2022 TIP	TAC – F&PC	❑ Recommends to TAC
June 6	Draft 2019-2022 TIP	TAC	❑ Recommends to TAB for purpose of public comment period
June 20	Draft 2019-2022 TIP	TAB	❑ Adopts Draft TIP ❑ MPCA letter of comment for air quality conformity included ❑ Public comment period starts by 6/23
Aug 6	45 – day public comment period ends		
Aug 8	Prepare Public Comment Report. Draft TIP revised to address public comment	MC and TAB staff prepares	❑ Email to TAB
Aug 15	Public Comment Report and Final TIP	TAB	❑ Adopts Public Comment Report and Final TIP and forwards to MC.
Sept 10	Final TIP	MC Transportation Committee	❑ Review and recommends to MC
Sept 26	Final TIP	Met Council	❑ Adopts, forwards to MnDOT & WisDOT w/ TIP checklist
Sept-Oct	Regional TIP is incorporated into State TIPs	MnDOT Central Office + WisDOT	❑ Forwarded to federal agencies
Oct-Nov	Conformity Determination by Federal Agencies	FHWA / FTA / EPA	❑ Reviews and Recommends Approval
~Nov 1	STIP Approved	FHWA	❑ Approve STIP

2040 Transportation Policy Plan (2018 Update): An Overview

In the Twin Cities metro region, we are on the move to our jobs, our businesses, schools and places of worship. We run errands, gather with family and friends, move goods, deliver services, and attend sports and cultural events. The highways, rail lines, buses, airports, walkways, and bikeways that make up our transportation system are essential to the quality of our lives today and in the years to come. They connect people with places, opportunities and each other. And they don't happen by chance. Our transportation system is the result of years of planning, in the past, currently and into the future.

The *2040 Transportation Policy Plan* (2018 update) is prepared by the Metropolitan Council on behalf of the Twin Cities region. It includes this Overview as well as the complete plan located online at *metrocouncil.org/tppupdate.*

Review the following information to get the most out of this Overview and the complete plan.

Metropolitan Council. The Metropolitan Council was created by the Minnesota Legislature in 1967 to address region-wide challenges with region-wide solutions. The Metropolitan Council plans for the orderly and economical development of the seven-county metro area. The orderly and economical development of the region is reflected in thoughtful, coordinated, and relevant plans for investing in infrastructure and accounting for future needs to make the best use or limited resources. As the region's federally designated metropolitan planning organization, the Metropolitan Council prepares a transportation plan for all forms of travel in the region. This transportation plan and other Metropolitan Council plans are prepared with input from many sources, including the region's counties, cities, and towns, which use these plans as a guide in their own planning processes. For more information about how stakeholders are engaged in the Metropolitan Council's planning process, turn to page XX of this Overview or go to URL.

The Council also delivers region-wide services that cannot be provided by any single city or county. These include transit, wastewater treatment, regional parks, and affordable housing. In all of its work, the Metropolitan Council's guiding principles are integration, collaboration and accountability. The Metropolitan Council's planning region includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties. This Transportation Policy Plan also includes developed portions of southeast Sherburne and Wright counties in the transportation planning area.

INSERT MAP

Working together. The Metropolitan Council's work, including this transportation plan, is guided by input from and partnerships with the region's counties, cities and towns; transit providers throughout the region; the governor and the state legislature; county and municipal staff; the general public; and both the non-profit and private sectors. Metropolitan Council plans, like this one, are used by the region's counties, cities and towns as guides in their own planning processes.

Groups with special interests, such as those who advocate for more bike access or those interested in business growth, are important partners of the Metropolitan Council. The Council also collaborates with government agencies, both federal and state, such as US Department of Transportation, the Minnesota Department of Transportation and the Metropolitan Airports Commission. Individual residents collaborate with the Council as users of Council services, by expressing their concerns and ideas, and by participating in public engagement activities, as outlined in the Council's Transportation Public Participation Plan which can be found in detail at URL.

Thrive MSP 2040. *Thrive MSP 2040* is the Metropolitan Council's long-term development plan for the seven-county area. *Thrive MSP 2040* provides a vision for our region's economic growth and prosperity, and sets the foundation for policy plans developed by the Metropolitan Council including transportation, land use, water use, wastewater, housing and parks. It guides coordinated planning among local, regional and state governments, and promotes partnerships that foster the prosperity, stewardship, equity, sustainability, and livability of the region. *Thrive MSP 2040* sets the foundation for other policy plans developed by the Metropolitan Council, including this Transportation Policy Plan.

You can learn more about Thrive MSP 2040 at www.thrivemsp.org

SIDEBAR

Advancing a bold regional vision

Thrive MSP 2040, the region's long-term development plan for the seven-county area, sets the foundation for this *2040 Transportation Policy Plan* (2018 update) and other policy plans developed by the Metropolitan Council. *Thrive MSP 2040* recommends that as a region, we take these important steps regarding transportation:

- Invest so that the region can preserve, maintain and operate a safe and secure transportation system for everyone into the future.
- Provide effective, reliable, and affordable connections between all types of transportation modes.
- Strengthen the region's transportation system to support the current and future vitality and prosperity of the Twin Cities region and the State of Minnesota.

- Plan, build and operate a transportation system that protects the natural environment as well as communities most affected by highway noise, compromised air quality, and splintered neighborhood. This includes advancing equity for historically underserved and underrepresented people, and contributing to our communities' livability and sustainability.
- Use investments to shape development and respond to how land use influences travel.
- Advance prosperity by balancing transportation planning, investments and operations across the region.

2040 Transportation Policy Plan (2018 update). The Metropolitan Council initially adopted the *2040 Transportation Policy Plan* in January 2015, and the plan was updated in 2018. The 2018 update can be found in its entirety at metrocouncil.org/tppupdate. The plan sets policies for the region's transportation system and is an important tool in transportation planning and funding for jurisdictions throughout the region. It is informed by *Thrive MSP 2040*, the region's long-term development plan.

The 2040 Transportation Policy Plan includes federal requirements for transportation planning, and requirements for both performance standards and for environmental justice (delivering equity for historically underrepresented communities including people of color and people with disabilities). The 2040 Transportation Policy Plan (2018 update) also contains updated investment (funding) plans for the transportation system based on different funding scenarios. The Transportation Policy Plan reflects data analysis and policy discussion, an extensive public engagement process, and input from local and regional policymakers, business owners, and advocates for community and transportation organizations.

Overview of the 2040 Transportation Policy Plan (2018 update). The Overview of the 2040 Transportation Policy Plan (2018 update) is the document you are reading. The Overview explores the characteristics of the seven-county metropolitan region and the importance of its multi-faceted transportation system to our quality of life. You will learn about the challenges our transportation system faces, and plans to meet these challenges. Also included are goals and objectives for our transportation system, the impact of technology, how outcomes are measured and reported, and how investing in the transportation system affects our everyday lives.

A Snapshot of Our Thriving Region

Our transportation system - from planning and funding, to operations and maintenance - doesn't happen in a vacuum. The characteristics of our region, how it has evolved and how it is changing, are integral to the ways we travel, and inform this transportation plan.

Land, People, Economy

- The Metropolitan Council's planning region is 1.9 million acres of land and water, or about 2,957 square miles. It includes 182 towns and cities in seven Minnesota counties - Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington. The *2040 Transportation Policy Plan* (2018 update) includes these seven counties and the developed areas of the southeast portions of Sherburne and Wright counties.

- About 50% of the region's land is used for agriculture or is open space, including woodlands, wetlands and water. A third of the region (31%) is developed, or built, including areas for residential, commercial, industrial, and institutional development, plus roadways. Of the total developed areas, nearly 75% are residential. About 11% of the region is dedicated to park and recreational spaces and facilities. How land is used in the region, including how densely or sparsely populated residential sections of our region are, has a big effect on how our transportation system performs and how it evolved and changes.

Why and How We Travel

Residents of the Twin Cities travel within the region for many reasons. Who we are, our incomes, our age, and where we live affects why we travel and what type of transportation mode we use. For example, 40% of travel by residents under 18 years old is to school and back. For those aged 18 through 64 who are working, 43% of trips are work commutes or travel while at work.

The vast majority of our trips are made by personal vehicle and this will continue to be true in the future. However, many of us use a mix of transportation modes, which means our travel is multi-modal. All of us are pedestrians, at some time walking or wheeling to our destinations, to a vehicle, or to transit. More of us are walking as a chosen transportation mode especially if we live close to our destinations. Every day thousands of multi-modal commuters park in free, transit-served lots, take transit from there to their destinations, and walk or wheel the rest of the way. Bicycling commutes, especially during non-winter months, are increasing.

SIDEBAR

The Work Commute

How important to our transportation system is the work commute by personal vehicle? On the one hand, the work commute represents less than 20% of total trips However, work commutes are often longer and more often during peak travel times, so they have a major impact on the regional highway system and traffic congestion. For the individual, the work commute can be very important, as people depend on their work commutes to be reliable and predictable.

Transportation, Land Use and Development

How our region's land has developed, and what new development is occurring or planned, has a sizeable impact on our transportation system. Land use and development influences where we choose to live, what housing is available to us near work, family or school, and where available jobs or leisure opportunities are located.

Urban neighborhoods built before the late 1940s included single family homes and multifamily dwellings on modest lots within walking distance of commercial corridors and transit. The "streetcar bungalow," a single-family home design built by the thousands in the 1920s, is nicknamed for its convenience to transit. Today, residents of these urban neighborhoods continue to walk, bike or use transit more than suburban residents, in part because their neighborhoods were designed not for automobiles but for pedestrians and transit.

Our region continues to grow – both in the core cities and throughout developed and developing suburbs. Over time, growth has affected transportation patterns and the development of our transportation system significantly. Our reality today includes increased automobile ownership and use, longer vehicle trips, less carpooling, and a lower percentage of transit use, which have generated a high level of traffic and congestion. On the other hand, current land development in the region reflects a changing trend. The migration from urban core to suburban communities has subsided. More than half of housing units built in the region since 2009 are multifamily units. Development and re-development of land for housing in the urban areas have increased dramatically. For example, in the area designated as Downtown Minneapolis, the number of residents since 2006 has increased by 25% to 39,960 (February 2016, Downtown Council). But it's not just in the city - new housing, also multifamily, is also on the rise in suburban communities. Transportation investment has an influence on overall community development, and vice versa.

Although recent development has included an increased focus on urban communities, particularly along transitways, growth is forecast in communities throughout the region. With that growth all communities will have different needs going forward. To prosper, they will need a range of housing, including attached housing which is mutually supportive of transit services. As the region grows responsibly, its future form will be more varied in all places.

Recent growth in the region has included commercial needs for new warehouse, shipping and manufacturing facilities. Many of these have resulted in development on more-affordable land in what is termed the "suburban edge" – for example, Rogers, Maple Grove, or Shakopee. These new facilities need workers, often in entry level roles. Most potential employees live 20-plus miles from these employers in denser, transit-served urban neighborhoods. These workers are largely of modest or low income and many cannot afford an automobile. Getting these workers to their jobs is a transportation challenge, and it reflects the complexities of land use, location choices, affordability, and our multi-modal transportation system, including transit.

Transportation and Technology

Technology has always played a role in transportation modes and systems. Extended ocean travel, inter-continental railroad service, flight, and the modern automobile would not be possible without technological discoveries.

Technology is also a major player in our region's transportation system. Automobiles today are technology-rich, including anti-collision warning features, hybrid and electric engine options, digital diagnostics, and navigation tools. Transit, both buses and rail, are managed and operated using sophisticated technologies that support safety, efficiency, clean fuel consumption and routing. Highway technology determines traffic management, updates signage and information, increases safety, and manages high occupancy toll (HOT) lanes.

Over the last decade, technology has developed new shared mobility options such as application-enabled ridesharing like Lyft and Uber and the Nice Ride network of shared bicycles. Metro Transit has a new application to provide easier use of transit; in the future, you might subscribe to a monthly service that would provide multiple options for how you travel. Perhaps the most anticipated technological change is the arrival of self-driving, or autonomous vehicles. Learn more about this development and its importance to transportation planning in this Overview on page XX in the section *Regional Transportation Challenges and Opportunities*

A Summary of the Regional Transportation System

Our transportation system serves more than 3 million people living in our 2,957 square mile region, plus the thousands who travel into our region to visit, study, work, play and shop. All of us who are walking, biking, driving, riding in cars and taking transit are users of our transportation system. Through the years, the system continually improves its operations and adds to the travel choices available, including alternatives that diminish or avoid highway congestion. Restoring the aging infrastructure of our aging highway system is another focused, ongoing improvement.

The region consistently ranks high in quality of life factors; yet there are gaps to close in the region. Those with moderate to low incomes and communities of color have historically faced barriers to opportunity – better jobs, more schooling, and home ownership. Today, the gap in income and education has never been greater. Equitable access to transportation improves everyone's chance to participate in a strong economy. We also must work harder to protect communities and the natural environment near busy roadways or major transit investments from disruption and environmental harm.

Here is a summary of our region's transportation system. This summary is guided by the region's *2040 Transportation Policy Plan* (2018 update), which includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties and the developed areas in the southeast portions of Sherburne and Wright counties.

SIDEBAR

Infrastructure: *2040 Transportation Policy Plan* (2018 update) recommendations

- Support or contribute to an appropriately spaced and well-managed highway network
- Manage congestion in an innovative, cost-efficient manner with the goal of providing reliable alternatives to travel in congested corridors
- Implement increased transit service and an expanded transitway system; support higher demand for land use around transit stations (housing, shops, jobs).
- Include bicycle and pedestrian elements in comprehensive transportation and land development plans; include the tools needed to support them
- Plan for the long-term needs of freight modes such as trucks, barges, and railroads
- Balance the needs of the aviation system with local land use decisions

The Regional Highway System

No other part of the region's transportation system has increased personal mobility more than the regional highway system. Highways support flexible and independent travel for millions of people, making millions of trips, every day.

Today's highway system developed as the nation pursued good roads essential for commerce, national defense, travel, and communications. Boosted by investments like the Federal Aid Highway Act of 1956, the Interstate highway system became the single largest public works project in the nation's history. The state of Minnesota is responsible for 914 miles of interstate highways, 3,245 miles of U.S. highways and 7,697 of Minnesota state highways. The metropolitan region contains only 12% of Minnesota's highway system, but metro area highways account for 47% of the annual miles of vehicle travel on this system in Minnesota. (MnDOT)

The benefits of these highways have been immense. Commerce, work commutes, recreational travel, and the everyday business of most people's lives, especially in rural and suburban areas, depend on a good highway system. The highway system is also essential to moving freight. Trucks move nearly 75% of all the region's freight, accounting for more than 80% of the total monetary value of all freight moved in the region.

Sidebar

Highways seeded the suburban building boom

The planning and construction of the highway system was a major factor in the post-World War II suburban building boom and the growth in automobile ownership and use. Unlike older, urban communities, suburban development design and land use favored auto-dependence rather than transit. Residents were served by local roads linked to regional highways, expanding the area in which jobs were attainable and increasing work commutes.

The region's highway system is well developed and classified into categories based on function. "Principal Arterials" are freeways and other highways with the highest travel speeds and carrying capacity, such as Interstates 35 and 94, and U.S. Highway 10. The A-minor arterials are intended to provide a lower level of mobility than the principal arterials, but provide more access to other roadways and land uses. Examples of A-minor arterials include Minnesota State Highway 51 /Snelling Avenue in Ramsey County and Minnesota State Highway 5 in Carver County.

There are 17,500 miles of roads in the region. Principal and A-Minor Arterial roads make up only 2,600 of those miles (15%) yet they carry 75% of the region's motor vehicle traffic, including trucks and buses. The rest are roads that are local or carry fewer vehicles, but are still essential to the transportation system. Local roads reflect the commitment to and investment in our transportation system by the region's counties,

cities and towns. This transportation plan addresses only the regional highways; local streets are planned by local governments.

Future investments in the regional highway system (Principal and A-Minor Arterials) will focus on operating, maintaining, and rebuilding the existing, aging highway infrastructure. Equally important will be increasing safety and security, and implementing affordable, effective strategies to manage congestion. Reducing highway congestion has no easy fix, and strategies must provide alternatives including all transportation modes (i.e., private vehicles, transit buses, trains, bikes); new technologies for traffic management; high occupancy lanes (MnPASS); lower-cost, high-benefit spot improvements, and strategically increasing capacity.

SIDEBAR

What causes highway congestion?

Congestion – traffic slowing or stopping on our highways – has several causes.

- Population growth, especially among adults 18-64 who make up most commuters.
- Prosperity, which can make automobile ownership possible for more people (during the 2008-2009 recession, congestion went down and transit ridership went up).
- Most people sharing the same work schedules who then are on the highways at the same times
- Adverse weather, crashes and other traffic incidents
- Special events attracting great numbers of people, mostly in private vehicles and at the same time

How can we manage congestion?

- Capacity for more people to use transit, park-and-ride lots, car sharing or van pooling, and other more multi-modal ways of getting to their destinations
- Capacity for more drivers in the high occupancy lanes through carpools or MnPASS (fee).
- Continued technology upgrades for traffic management and redesign of lanes to ease congestion and improve the effectiveness of transit.

The Regional Transit System

Public transportation, or transit, enhances quality of life, gets people to opportunities, supports prosperity and improves the economic competitiveness of the region. Residents want transportation choices that include public transit so they can get to get

to work, school, services and amenities, recreation, shopping and other activities. This is especially true for many living in the region's more densely populated urban areas, where transit is close by, comes often and is affordable. In suburban areas, public transit primarily provides an economical, convenient option for commuting to work by automobile. For those in rural areas who do not drive, public transit is essential.

SIDEBAR

Investing in Public Transportation Yields Substantial Returns (national averages)

- Every $10 million invested in public transportation yields $30 million in increased business sales
- For every $1 billion of federal investment in public transportation infrastructure, 47,500 jobs are created
  (Source: American Public Transit Association - APTA)

Not all areas of the region can be served by transit equally. It is important to spend our limited transit resources on planning, building and maintaining transit services that will be needed and used over time. Transit is the most cost effective when it follows a regular-route that travels frequently through communities with concentrations of people and destinations. Population density can be the result of urban land development and use (multifamily dwellings, reasonable walks to bus or train routes). It can also be the result of a park-and-ride facility, which creates density when transit riders drive their cars to this single location and take transit for the rest of their trips. Today, young adults and empty-nesters are moving into urban areas in part for the availability of frequent and convenient transit services.

There are currently six types of transit service in the region.

- Regular-route bus service
- Light rail transit (LRT)
- Bus rapid transit (BRT)
- Commuter rail
- Dial-a-ride services like Metro Mobility, and Transit Link
- Public vanpools

The region's transit providers operate 217 bus routes: 111 local services and 106 express routes. Also in service are two light rail lines (METRO Blue and Green lines), two bus rapid transit lines (METRO Red Line and A Line), and one commuter rail line (the Northstar Line). Light rail and bus rapid transit routes are local services. The Northstar Line is an express service.

There are six major providers of public transit in the region:

- Metropolitan Council, including Metro Transit and contracted services such as Metro Mobility and Transit Link
- Minnesota Valley Transit Authority serving eight south metro communities
- SouthWest Transit serving three west metro communities
- Plymouth Metrolink serving the City of Plymouth
- Maple Grove Transit serving the City of Maple Grove
- University of Minnesota providing bus service within and between campuses in Minneapolis and Saint Paul

Many suburban communities are served primarily by a large system of park-and-ride lots and ramps, with about 34,000 parking spaces, serving 19,000 users daily.

Recent advancements reflect current growth as well as preparation for the future.

- Annually, regional transit operators provide nearly 100 million rides.
- In 2017, Metro Transit set a new, single-day record – nearly 370,000 rides, bolstered by the recent additions of the A Line, METRO Green Line and METRO Red Line.
- An extension is planned for the METRO Green Line (currently the light rail route between downtown St. Paul and Minneapolis) routed from downtown Minneapolis through St. Louis Park, Hopkins, Minnetonka, and Eden Prairie. Construction is projected to start later in 2018.
- Plans are being made for the METRO Blue line, currently running from downtown Minneapolis to the Mall of America, to be extended through north Minneapolis, Golden Valley, Robbinsdale, Crystal and Brooklyn Park.
- The A Line bus rapid transit (BRT) service opened in June 2016. The A Line connects the METRO Blue and Green lines and several bus routes with the busy Snelling Avenue corridor. This type of BRT (called Arterial BRT, because it operates on existing main thoroughfares through communities) provides a faster trip, frequent service, and specialized vehicles with train-like features. Another BRT is being developed on Penn Av in north Minneapolis and additional Arterial BRT routes are being planned.

SIDEBAR

The benefits of public transit go beyond traveling to chosen destinations. Real estate near or along transit stations or corridors have greater value than real estate with no access to transit. Mixed-use development that incorporates transit helps make neighborhoods desirable and valuable in a number of ways, including:

- Giving residents the option of not owning a car and incurring its costs, or using a car less, avoiding fuel and parking costs;
- Supporting a mix of housing and commercial uses—apartments, condos, retail shops and services—that builds a neighborhood with ethnic and age diversity.
- Fostering economic activity, social interaction, community involvement, and good health through physical activity; and
- Generating larger financial returns for communities; real estate is not devoted to parking lots and other auto-oriented infrastructure but uses that support community life and generate more revenue.

Strategies to encourage alternatives to commuting by car

Transportation Management Organizations (such as I-494 Commuter Services – an outreach program of the I-494 Corridor Commission) and local governments within the region partner with the Metropolitan Council to encourage drivers to choose alternatives to driving alone to and from work. Below is some background about the work they do.

What are Transportation Management Organizations?

- Public/private partnerships who share highly congested corridors, such as the I-494 corridor in the southern metro area
- Include employers, building owners, businesses, and local governments
- Work together on strategies, programs, public education and information to promote alternatives to driving alone during peak travel times
- Support carpooling, transit, and telecommuting

Managing Travel Demand

The Metropolitan Council partners with cities and transportation management organizations to:

- Reduce travel during peak periods and in congested areas
- Promote alternatives to driving alone such as carpooling, transit, and bicycling
- Promote flexible work schedules and telecommuting
- Work with local governments to link their strategies with supportive land use policies
- Market transit services like the Northstar Line, METRO Green Line, A Line, and METRO Red Line.

- Encourage the use of amenities like park-and-ride facilities, Nice Ride bicycles, and bike lanes

Regional Bicycle and Pedestrian Infrastructure

Walking and bicycling are essential parts of the regional transportation system. People walking and bicycling can reduce the number of vehicles on the roads and vehicle-related air emissions. Bikers and walkers incorporate exercise into their day, and often take transit as part of their trips. On a household level, people who walk or bike reduce their own transportation costs; at a national level they reduce our dependence on non-renewable energy sources.

Walking and bicycling trips tend to be relatively short, averaging about one-quarter to one-half mile for walking and between one and three miles for bicycling. Local governments lead the development of bicycle and pedestrian systems. The Metropolitan Council plans for regional bicycle systems that run through several jurisdictions or involve several travel modes (transit or auto), and it helps remove regional barriers to bicycling and walking.

The Regional Bike System

The region is fortunate to have significant bicycling amenities, including many miles of on-street bike lanes, as well as a network of off-road trails. Twin Cities' residents continue to advocate for this system, and significant investments in bikeways have been made by cities, the region, state and federal governments.

Bicycling and walking activity has increased substantially in Minneapolis, its surrounding suburbs, and St. Paul over the last decade, partially as a result of efforts through a federal non-motorized transportation pilot project. In addition, the Council has been improving the inventory of bicycling amenities and how they're used. Current bicycle system priorities include the following.

- In the interest of accommodating cyclists of all ages and abilities, there is a growing need to develop bikeways separate from vehicle traffic. There is a trend among the region's cities to develop protected bikeway networks for this purpose.

- The Metropolitan Council conducted a Regional Bicycle Barriers Study to identify physical barriers to daily bicycle trips. The study identifies and prioritizes locations where barriers to bike travel occur, important information for cities, counties and state programs investing in bicycle travel.

- Electric battery-assist bikes, or e-bikes, are a fast-growing trend. Mobility for adult cyclists, and particularly for senior cyclists, will be greatly improved as e-bikes enable users to climb hills easily and ride longer distances, perhaps motivating cyclist to be more confident when navigating traffic along on-street

bikeways. Accommodating increased numbers of e-bikes is important to future planning.

Pedestrian Infrastructure

Pedestrian infrastructure − sidewalks, trails, lighting − is key to making places feel easily reached, inviting, and safe to people of all ages and abilities. For people who do not drive, walking or traveling by wheelchair can be essential to meeting daily needs, and walking can be an important part of active living. Unfortunately, opportunities for walking, such as going to the store or to the nearest transit station, can be thwarted by physical barriers such as a lack of sidewalks, poor snow and ice removal, and wide, busy roadway intersections. Below are important priorities in planning for pedestrian traffic and safe and accessible walkways:

- We are all pedestrians. Depending on who we are and where we live, we may be challenged to walk safely in our communities. For people with disabilities, children, older adults, and people living in lower income communities, it can be more difficult to walk where they need to go. It is a goal that our transportation networks work safely for all of us.
- Compared to the percentage of trips made by walking, pedestrians are overrepresented in the region's deaths from traffic accidents, reinforcing the need for improved pedestrian safety on our roadways.
- Thirty years after enactment of the Americans with Disabilities Act, challenges remain for people with disabilities. Communities must work to protect the civil rights of people with disabilities, including transportation.

The Regional Freight System

Today 75% of intercity freight is moved by trucks on highways. The remaining 25% is moved by air, water, and rail. Most freight infrastructure (trucks, warehouses) is owned by the private sector. Public sector freight-related infrastructure includes highways, navigable rivers, river port terminals, and airports.

There are two river ports in the Twin Cities metro region, the Port of Saint Paul on the Mississippi River and the Port of Savage on the Minnesota River. Freight is hauled by barge more than 1,800 miles downriver from the Twin Cities to the Port of New Orleans where it is loaded onto ocean-going ships for export to global markets. The channels, dams, and locks on navigable rivers are maintained by the U.S. Army Corps of Engineers.

Four Class I private freight railroads operate more than 500 miles of track in the metropolitan area, linking the region with national markets and carrying a large amount of cross-country freight. Three Class III (short-line) railroads provide local freight services on about 160 miles of track in the region.

High-value and time-sensitive goods are shipped long distances via the air freight system. The region's high-tech and biomedical companies are major air freight service

customers. Minneapolis-Saint Paul International Airport (MSP) handles air freight for the Twin Cities metropolitan area, most of Minnesota and adjacent parts of Wisconsin and the Dakotas via air freight providers such as FedEx, United Parcel Service (UPS) and commercial airlines. Goods shipped on commercial passenger aircraft represents less than 20% on average of the overall air freight volume shipped via MSP; more than 80% is shipped via air freight carriers.

The Regional Airport System

Air travel, for people and goods, is an integral part of the region's transportation system; a nearby airport with many flights to many destinations improves our region's quality of life and economic competitiveness. The region's major airport, Minneapolis-St. Paul International Airport (MSP), has four runways and two terminals on 3,400 acres surrounded by Bloomington, Eagan, Mendota Heights, Minneapolis, Richfield and St. Paul. MSP, along with six, smaller regional airports, is owned and operated by the Metropolitan Airports Commission (MAC), a public corporation established by state law in 1943 to provide coordinated aviation services throughout the Twin Cities metropolitan area. MAC is primarily funded through rents and fees paid by airport users.

In 2016, MSP ranked 16th nationally in volume with 37.5 million passengers and 413,000 take offs and landings. It brings more than 5 million visitors to the region every year, including 500,000 international visitors, who spend approximately $2.5 billion annually in the region. An estimated 207,000 metric tons of cargo moved through MSP in 2016. MSP is served by the METRO Blue line.

The smaller, or reliever, airports in the region include Airlake-Lakeville, Anoka County-Blaine, Crystal, Flying Cloud-Eden Prairie, Lake Elmo, and St. Paul Downtown, owned by the MAC, and South St. Paul and Forest Lake, both city owned. These airports relieve congestion at MSP and provide improved aviation access to the region. Regional airports generate $1.4 billion in economic activity annually for the Twin Cities. Airport users at these smaller airports include air taxis, business aviation, flight training, recreational aviation, and military aviation.

Passenger Travel Beyond the Region (bus and train)

Each mode of transportation within the region is best used for trips of a certain distance, and that is true of travel outside our region. Traveling city-to-city or town-to-town is most often by automobile, Amtrak passenger train service and a number of intercity bus lines.

Minnesota Department of Transportation (MnDOT) is currently studying potential high-speed rail services linking the Twin Cities with Duluth and Chicago as well as the potential for an additional daily Amtrak train at conventional speeds to and from Chicago. Recently, intercity bus service has added innovations to attract passengers such as Wi-Fi and competitive pricing. The Metropolitan Council has a minimal role in planning intercity passenger rail or bus service, though significant regional facilities,

such as the Union Depot in St. Paul, provide access for this service and local transit service in both Minneapolis and St. Paul. MnDOT coordinates with operators of inter-city services and provides some subsidies to support service in Greater Minnesota.

Regional Transportation Challenges and Opportunities

The quality of our daily lives is greatly influenced by our region's transportation system. Is transportation available when we need it, taking us where we need to go, at a cost we can afford? What we need and how we use transportation changes over time. Those changes influence the plans and recommendations made by the Metropolitan Council regarding the future of our region's transportation system, found in the Council's Transportation Policy Plan updated for 2018. The complete Transportation Policy Plan can be found at *www.metrocouncil.org/tpp-update*.

Elements that influence changes in our transportation system include:

- The region's growth in population and jobs;
- The land use and layout of our region, and how land use evolves;
- Where we live, our incomes, and the design and stability of our neighborhoods;
- The locations of our many destinations, including work, school and family;
- The types, or modes of transportation available to us, and what modes we use (Personal vehicle? Bus? Carpool? Bike? Walk? Train? A mix of different modes?).
- How much of our incomes we can afford to spend on transportation costs;
- Transportation innovations and changing technologies; and
- The availability of public funds for our transportation system, including highways and transit (i.e., buses, light rail).

Our transportation system is extensive and complex, affecting every resident, business, government jurisdiction, recreational venue, educational institution and community organization in our region. Its challenges and opportunities are numerous; here are notable challenges and opportunities influencing the planning and development of our transportation system.

1. **Our highway system well-developed, but is aging and will require major reconstruction. Our transitway system is newer and still being developed. These realities are reflected in plans for the future of highways and transit, and how each uses the funding available.**

The highway system

Preserving the existing highway system is a top priority for highway funding over the next decade and beyond. Most of these highways are 40 to 60 years old, and approaching the end of their original useful lives. In 2014, it was estimated that more

than 30 million vehicle miles were driven on the system daily, including trucks moving 75% of all freight in and out of the region. Ongoing maintenance is mandatory to preserve the highway system and meet state and federal performance standards. Highway sections at the end of their lifecycle have deteriorating pavement and bridges, and require major rehabilitation or reconstruction.

SIDEBAR

Funds for highways and funds for transit are separate.

Most state and federal transportation dollars are dedicated by law or the state constitution for a specific purpose, such as the state's highway system or for the development of the regional transit system. Nearly all dollars allocated for highways and dollars allocated for transit cannot be redistributed between them.

Highway reconstruction is an opportunity to identify where improvements can be made, folding other related improvements into the scheduled road work. These may include safety, mobility, freight, bicycle, and pedestrian needs. Integrating these other needs with projects to preserve roadways minimizes cost, reduces inconvenience to travelers by coordinating separate needs into one construction project, and addresses multiple policy objectives. For example, prominent corridors such as I-35W north of Minnesota Highway 36 and I-94 between the two downtowns could be significantly reworked, as their pavement and bridges are reconstructed and replaced.

SIDEBAR

Urban highway construction 40 to 60 years ago disrupted many communities of color and others with little voice in government decision-making. Many highways built in Minneapolis and Saint Paul required destroying neighborhoods. As a result, highways split and weakened established communities, such as I-94 being constructed in the 1960s through the Rondo community, splintering this thriving, historically African-American neighborhood in St. Paul. Today, planning for highway reconstruction is an opportunity to bring residents into the process, learn more about their needs, concerns and recommendations, and focus on improvements that will help reunite communities split by highways.

The transit system

The region's transitway system is still growing, primarily by adding new transitways. Metro Transit (an operating division of the Metropolitan Council) provides the majority of transit service in the region, augmented by four suburban transit providers. Plans for transit include both new and modified transit services to the region. The region is investing in improved customer experiences with services like light rail, commuter rail, and bus rapid transit (BRT). These new services are attracting new transit riders to the system with every new line that opens.

The transit system will need funds for operations and maintenance but also for new development. Ridership continues to trend upward, as there is a direct correlation between what is invested in transit development and increased transit use. The developments of the past 14 years are a case in point: the opening of two light rail lines; ever-evolving bus service; technologies from alternative fuel buses to online route mapping; bus rapid transit (BRT) lines designed for improved speed, convenience and comfort; routing that better links buses and rail; and the launching of commuter rail. The next two decades include plans for extending the METRO Blue and Green light rail lines, and adding several BRT routes.

2. Travel patterns are changing. Who we are, how we live, what we need and what we want all affect the choices we make, including how we use transportation.

As we change, our travel patterns change, too.

This is clearly seen in how different age groups have different transportation wants and needs. Of particular interest to transportation planning are Gen Z (otherwise known as iGen or Centennials, born 1996 and later); Millennials (or Gen Y, born 1977 to 1995); Generation X (born 1965 to 1976) and Baby Boomers (born 1946 to 1964). Here are some notable challenges and opportunities brought about by the differing characteristics of these generations.

In both the U.S. and in Minnesota, Millennials now outnumber Baby Boomers in the region by about 100,000 people. The two groups are projected to have the largest impact on transportation plans and trends over the next several decades. Millennials, ranging in age from 19 to 40, have lower rates of vehicle ownership, auto usage and driver licensure than previous groups, and they use transit, walk and bike more than others. However, we don't know if or how these patterns will change as Millennials start families and enter their peak travel years, between the ages of 30 and 60. Baby Boomers will have a sizeable impact on travel patterns as they retire, initially traveling more for their activities during the day, and as they age and are no longer able to drive, potentially creating a notable increase in demand for services such as Metro Mobility, and perhaps autonomous vehicles as that trend emerges.

These travel patterns correlate with an increase in multifamily housing. Multifamily housing has been the majority of new home construction since 2012, often located in walkable neighborhoods served by transit. For both Millennials and Baby Boomers who want to live closer to work, entertainment, transit and amenities, multifamily housing has been attractive.

Over the prior 50 years, there was a continuous, dramatic increase in vehicle miles traveled (VMT) due to growing suburbs, more women in the workforce, and increased incomes which allowed auto ownership to expand to almost one car per driver. This growth rate is not expected to be repeated, in part because of the changing ways people today approach travel – living closer to work, biking, walking or taking transit,

and working from home. Though population growth is likely to keep vehicle miles traveled at a significant level. Another notable change in travel patterns relates to transit ridership as transit options have expanded – including light rail, bus rapid transit, and additional commuter services. As the region continues to expand transitway and regular route transit options, there will be other emerging trends and issues to address.

3. Highway congestion is a reality of a growing region. Addressing congestion must be a priority for the region.

While each person may be traveling fewer miles each day, due to the changing travel patterns just described, the increasing population of the region will still lead to an increase in total travel over the next 20 years. Increasing levels of congestion are directly connected to our region's population growth and prosperity. For example, increased highway use reflects the region's population growth of 150,000 people, and the addition of 165,000 jobs, since 2010. And while commuter trips represent only 25% of total trips taken, these trips are often longer and likely to occur during peak travel times, having a larger impact of the highway system.

The reality of highway congestion surfaces many challenges and opportunities. For example, congestion is not solved by solely building more roads. Congestion must be managed to maximize efficiency and safety. Every mode of transportation – or what's called a multi-modal system – must be part of the plans and action to manage congestion. Congestion management is a transportation system priority, and significant dollars are being invested for this purpose. These investments include:

- Making investments in technologies that improve travel in and through congested corridors;
- Offering more reliable travel options along congested corridors, such as transit options (buses, light rail, commuter rail), and high-occupancy-toll (HOT) lanes (i.e., MnPASS);
- Improving congested locations with lower-cost, high-benefit fixes to stretch our limited transportation dollars further;
- Encouraging land use and development that offers the community easy access to multi-modal transportation options, including transit;
- Encouraging travel outside traditional commuting times, through flexible work schedules or work-at-home options; and
- Supporting the efficient movement of freight.

4. Technology will continue to influence travel in the region.

Technology is interwoven into nearly every aspect of modern life, and transportation is no different.

One of the biggest technology influences is the prevalence of the smart phone. So many transportation-related information or sharing services are accessed via phone applications – from information about traffic, to finding the optimal route across town, to tracking when the next bus is coming, to reserving a taxi or shared-ride service, to getting a Nice Ride bike. The convenience of this consumer-based technology is changing travel patterns, and will continue to do so into the future.

On our highway system, traffic flow and improved safety is supported by many technologies, including real-time traffic and incident monitoring, electronic message signs, signal-overrides for emergency vehicles, and managing vehicle volumes in high occupancy toll lanes (HOT). Technology presents many challenges and opportunities for our transportation system.

Vehicles have been revolutionized by technology. Nationally, an estimated 10% of cars on the road are battery-supported hybrid vehicles, and electric vehicles are of growing in interest as the number of miles a vehicle can travel per charge increase. Technological advancements are evident in newer vehicles, as well as on the roads they travel. Technology has had a notable impact on moving freight as automated distribution of goods and online, delivery-based shopping increases. The Metropolitan Council studies the outcomes of these changes and monitors trends so it can contribute to and shape the conversation as technology and transportation planning evolves.

Autonomous, or driverless, vehicles could have the most significant impact on travel in our region over the next several decades. Auto industry leaders are dedicating sizeable resources to autonomous vehicle research and testing, and several predict autonomous models will be street-ready by as soon as 2021. Those dates may be aggressive, but there is great likelihood the industry will be focusing on this reality over the next 10-15 years. Elements of driverless vehicles are already offered in current models by several manufacturers, including collision warning, lane departure warning and blind spot monitoring.

The cost per driverless vehicle could be initially prohibitive. As the technology becomes more common, it is expected that costs per individual vehicle will lower. Interest by consumers will be based on several factors, including the promise of increased safety, improved mobility for those who can't drive, more relaxed trips, and an increase in car-sharing.

The advent of autonomous vehicles is a priority for all future transportation system planning. Points to consider include:

- There will be an extended period of transition with both driverless and driver-controlled vehicles sharing the road.
- Funding will be needed for updated traffic management systems that accommodate autonomous vehicles.

- Autonomous vehicles could bring a shift in travel patterns, employment and purchasing. Will commercial vehicles become driverless? Predictions are the number of vehicular crashes will drop, as 95% are associated with driver error. If so, how will this affect the automobile service industry or the insurance industry? Will autonomous vehicles affect the taxi industry and its drivers?
- Autonomous vehicles need less lane space because of their anti-collision technologies. Will highways accommodate more vehicles in less space? Will single occupant vehicles be parked in pay lots or ramps, or sent home, to return later for occupant pickup (having an impact on existing structures and land use and creating the potential for more congestion as empty autos circulate)?
- New opportunities for mobility could be made available to people with limited transportation options including children and people with disabilities and the elderly.
- Land use patterns may be affected, as people potentially have the ability to live farther from work and have longer commutes.
- There is general agreement that the majority of autonomous vehicles will be powered through electric batteries. How will cities adapt to changing land uses as there is less demand for gas and service stations and greater demand for electric charging stations?
- Average earners, as well as those struggling with poverty, could be priced out of this technology at first, making transit offerings as important as ever to help decrease disparities in opportunity.
- Autonomous vehicles could change how transportation infrastructure will be financed as traditional revenue sources from fuel, motor vehicles, parking, and fines could change.

The Metropolitan Council, along with its state and federal partners, is preparing for the arrival of autonomous vehicles. It is conducting ongoing studies of the potential short term and long-term effects of autonomous vehicles on our region and its transportation system.

5. Our transportation system is essential to advancing equity, sustainability, and prosperity in our region.

Equity

Thrive MSP 2040 defines equity as residents of all races, ethnicities, incomes, and abilities having the opportunity to reach their full economic potential - success, prosperity, and a good quality of life.

In this transportation plan, equity is highlighted in ways the region provides access to jobs, school, and other community amenities. Strategies include using equity as a

criterion for prioritizing transportation funding. Other strategies including making decisions about transportation investment that encourage developing healthy and livable communities. The Metropolitan Council's focus on equity includes extensive public engagement and input into its planning and decisions.

Transportation policy, including the level of investment in transportation and the transportation system that results, affects how equitably our region's residents have access to opportunities. Challenges and opportunities include:

- Nationally, the region has among the largest socio-economic disparities in education, employment, income and homeownership between white residents and residents of color – and income disparity continues to rise. Flexible, affordable transportation options are important elements in delivering equity and diminishing these disparities.
- Poverty is often perceived as an urban problem, but poverty in suburban and rural areas has increased substantially. For many people, owning a vehicle can be cost prohibitive, yet transit options decline beyond the boundaries of Minneapolis and St. Paul because suburban land use patterns are difficult to serve with regular-route transit service. The result is difficult access to education and jobs among low income suburban residents who would most benefit.
- By 2040, 40% of the region's residents will be of color, and many more residents will be elderly – two groups requiring transportation policies, actions and funding that deliver equitable solutions.

Sustainability

Our transportation system, and how we use transportation, significantly affects the well-being of our natural environment. Challenges and opportunities include:

- Greenhouse gas emissions from on-road vehicles cause nearly a quarter of air pollution emissions, although they are decreasing. Emission levels will continue to improve as vehicle technology, including hybrid or electric vehicles, progresses. Improving vehicle technology has been, and is likely to continue to be, the most effective way to reduce emissions.
- Changing our transportation behaviors, like reducing single-occupant vehicle trips, greater use of transit, choosing housing in communities with amenities close by, and ride-sharing can also have an impact.
- People living in neighborhoods adjoining major highways or roadways have higher than average exposure to transportation-generated air pollution. Many experience adverse health consequences, such as asthma, at greater rates than the general population. Housing costs are often lower in urban, highway-bounded communities; so many people in these neighborhoods have low or

modest incomes, resulting in these health disparities disproportionately affecting poor people.

Prosperity

The availability of affordable, flexible transportation has a sizeable impact on the region as a whole, and on individuals who need transportation to get to jobs or school.

- An estimated one-third of projected new job growth will be located on transit routes. However, two-thirds will not be located along established transit routes**.** Manufacturing or warehouse facilities with available jobs often are located in the region's semi-rural or suburban edges, many miles from urban core neighborhoods where many of the people qualified for and looking for jobs live.
- The result is called "spatial mismatch" – the greatest concentration of unemployed workers lack adequate means to travel (whether by transit or car) to the richest concentrations of job vacancies. This disconnect has sizeable ramifications for those seeking and needing employment, and companies who are struggling to attract employees. This is a crucial opportunity for public-private collaboration and future planning.
- Transitway investments will improve access to jobs. Plans include several bus rapid transit (BRT) lines, and the extension of the METRO Blue line northwest and the METRO Green line southwest.

A reliable and efficient regional transportation system is high on the list of needs and requirements for employers and businesses moving commercial goods. The transportation system can also play a role in attracting and retaining a talented workforce. As employment continues to grow outside the central cities, the need for greater transportation choices will also grow.

People throughout the region are advocating for efficient, reliable options on the highway system, as well as expanded regional transit, bicycle, and pedestrian systems.

Metropolitan Council's Transportation Policy Plan, on behalf of the region, works to both solve challenges and plan for future transportation system changes. More information about funding and next steps is found in the following chapters. Specific studies to further examine these developing realities can be found in the Work Program, included in the full plan found at ***www.metrocouncil.org/tpp-update***.

Work Program Items

The Metropolitan Council creates a Work Program that includes studies and planning work to address specific issues and emerging trends in advance of the next update to the Transportation Policy Plan. The full Work Program is available elsewhere in this plan [insert URL] but a summary of a few key studies is below.

Congestion Management Process

The Congestion Management Process (CMP) is a cooperative, cohesive, data-driven, and regional process to identify and mitigate congestion along the transportation network. To strengthen the regional congestion management process, the Metropolitan Council has added a study to the Work Program specifically addressing aspects of congestion.

The scope of this study will be determined cooperatively involving the recently-established advisory committee. At minimum, the study will help determine the extent of the transportation network to be included in the process. It will also develop methodologies for analyzing and measuring congestion, establish a comprehensive data collection program for regional coordination and monitoring, and assess the effectiveness of previous congestion management strategies in mitigating congestion within the region. The end result will be a report that is organized around the eight-step process, required by the federal government, and will guide the regional, coordinated Congestion Management Process.

Connected and Autonomous Vehicles

The advent of more connected vehicles (with Internet access and a local area network), the rapid development of autonomous vehicles, and the evolution of new transportation ownership models will have profound impacts on the region's transportation use, economics, and infrastructure. The Metropolitan Council is well positioned to convene regional stakeholders to formulate policy responses to technology change and to study potential impacts on all transportation modes and systems.

Addressing the many issues related to connected and autonomous vehicles – including legislation, regulation, policy, and planning tools – will require collaboration among state, regional, local, and corporate stakeholders. The Metropolitan Council and MnDOT will facilitate regional collaboration among all transportation stakeholders regarding connected and autonomous vehicle technology, deployment, policy, and planning. The collaboration may take the form of a new committee, a set of workshops, and dedication of staff resources.

Council staff will continue to participate in national conversations regarding connected and autonomous vehicles. As local experts on planning efforts, they will integrate work being done by the U.S. Department of Transportation, the Association of Metropolitan Planning Organizations, the Transportation Research Board and other researchers, peer regions and states.

The field of vehicle automation continues to evolve rapidly. It is expected that any specific workplan will become out-of-date rapidly, and this item in particular will be revisited and potentially revised annually.

System-to-System Interchanges

System-to-system interchanges are the connection of two freeways and are critical links in the region's highway system. Over the past 15 years the congestion and crash numbers at these locations have increased significantly. Major investments have

recently been made at system interchanges such as U.S. Highway 169 and I-494 (Bloomington), I-35W and Minnesota Highway 62 (Richfield and Minneapolis), and I-35E and I-694 (Vadnais Heights). Other system interchanges often cited for needing improvements include I-35W and I-494 (Bloomington), I-94 and I-494/I-694 (Oakdale and Woodbury) and I-35W and I-694 (New Brighton), as examples. The level of problem and cost of solutions at these locations overshadow most other mobility and crash problem areas in the region.

Later in this overview, there is a review of the Metropolitan Council's two funding or investment structures. In brief, the first – "Current Revenue Scenario" – assumes transportation funding will be as expected. The "Increased Revenue Scenario" assumes that additional funding beyond the Current Revenue Scenario becomes available. The *2040 Transportation Policy Plan* lists system interchanges as a "strategic capacity expansion" project type under the Increased Revenue Scenario. However, analysis of the individual interchange problems, solution identification, and funding have proceeded independently. As such, there is currently not any prioritization of these projects if more money would become available to the region. This work program item prioritizes these interchanges, so that the region can have the best information available on where to invest limited resources. Similar regional prioritization efforts have been completed for other investment types such as MnPASS.

This project would be a joint effort between MnDOT and the Metropolitan Council.

Transit Service Allocation

The Transportation Policy Plan stresses the importance of transit investments in making progress toward the transportation goals for the region. However, roles for transit require different types of service, some where priorities conflict with limited resources. One role transit can play is to serve the highest demand corridors, where land use and development can support strong ridership. Another role transit can play is providing access to a large number of people and jobs across the region, and to provide an alternative to driving, regardless of the ridership potential. The transit system can be designed to address these two roles on opposing ends of a spectrum, maximizing efficiency or maximizing coverage. The Council will work with regional transit providers to conduct a study that will analyze how current transit service is allocated between service meant to maximize efficiency (often involving areas of denser population) and service meant to increase transit coverage (geographically, which includes areas of sparser ridership). The study will explore the trade-offs of the different approaches, identify a target balance of investment, and identify possible transit solutions to serve areas of the region that can't be effectively served with regular-route service.

Twin Cities Region Transportation Goals, Objectives, Strategies

This *2040 Transportation Policy Plan* (2018 update) and our transportation system itself help fulfill the vision of the region's long-term plan, *Thrive MSP 2040*. *Thrive MSP 2040* reflects our concerns and aspirations, anticipates future needs in the region, and addresses our responsibility to future generations.

The Metropolitan Council – with input from businesses, the public, partner agencies, and local elected officials – has identified six broad goals for the regional transportation system, and a framework for how to achieve them. Consistent with federal requirements, the Council is also developing performance measures and targets to evaluate effectively these goals have been achieved. Here you will find these six transportation goals, their corresponding objectives, and a summary of the strategies that will be used to achieve them.

Thrive MSP 2040 includes five general outcomes for a thriving region: stewardship, prosperity, equity, livability and sustainability. You will see these outcomes noted with each of the transportation goals.

Performance-related outcomes are also discussed later in this Overview on page XX.

SIDEBAR

Goals are broad statements of aspiration that describe a desired future for the region's transportation system.

Objectives represent achievable outcomes that together help to realize a goal within the timeframe of the plan.

Strategies identify how objectives will be met through specific actions, including who is responsible.

Performance measures are things that can be measured to determine if a strategy is working.

Goal: Transportation System Stewardship (taking care of what we have)

Sustainable investments in the transportation system are protected by strategically operating, maintaining and preserving operating system assets.

Objectives:

A. Efficiently preserve and maintain the regional transportation system in a state of good repair.

B. Operate the regional transportation system to efficiently and cost-effectively connect people and freight to destinations

Key Takeaways:

The transportation system is extensive and represents a significant investment over multiple generations. Most resources in this plan will be dedicated to operating, maintaining, and rebuilding what already exists.

To maximize investments, this plan supports making the system more efficient and effective and providing for the best user experience the region can afford.

The region needs to focus on investments that have the greatest benefit for all users of the transportation system: residents, businesses, and people of all ages, abilities, and backgrounds.

The public has invested heavily in its transportation system. Its preservation, maintenance, and operation are important to protect this investment for generations to come.

A significant portion of funding is spent every year for maintenance, operation, repair and replacement of the existing system. This includes major infrastructure such as pavement, bridges, the bus and rail fleet, park-and-ride facilities, transit stations, stops and shelters. Climate-related severe weather events such as flooding and colder winters will continue to have impacts on regional transportation infrastructure. Continued and enhanced system maintenance, repair, and preservation will increase the resiliency of regional transportation infrastructure.

Maintenance includes repairing buses and light rail cars, mowing and maintaining landscaping, clearing snow, ice, and debris from roadways, and building and maintaining transit facilities, sidewalks and trails. Preservation includes the repair or replacement of pavement, bridges, and infrastructure to support their safe and efficient use.

Operations includes MnDOT's Freeway Incident Response Safety Teams that help people who are stranded on the roadway; traffic signal operations; and operation of the regional traffic management center (including the variable message signs and advisory

speeds). Transit operations include the day-to-day service of buses, light rail, commuter rail, Metro Mobility and Transit Link dial-a-ride service.

An important part of stewardship is getting the most out of the investments made in the transportation system. During maintenance and preservation projects, there are often opportunities to integrate other improvements at a lower cost. These improvements can lead to better user experiences – for example, safer roads, less congestion, or better sidewalk connections. Initial capital improvements can also create efficiencies in long-term operations and maintenance. For example, investing in automated card-swipe fare technology for transit produces cost savings over the long-term by speeding up service and creating a better customer experience that attracts more riders.

System stewardship includes assessing the performance of the system and the level of satisfaction that its users are experiencing, and making adjustments as necessary to continually improve performance and service.

Measuring Performance

Performance measures that will be used to measure successful stewardship of the transportation system include:

- Roadway pavement conditions
- Bridge conditions
- Condition of transit infrastructure (state of good repair)
- Reliable speed in MnPASS lanes

Related Thrive MSP 2040 Outcomes: Stewardship, Prosperity

Goal: Safety and Security

The regional transportation system is safe and secure for all users.

Objectives:

A. Reduce crashes and improve safety and security for all modes of passenger travel and freight transport.

B. Reduce the transportation system's vulnerability to natural and man-made incidents and threats.

Key Takeaways:

Safety and security are at the heart of providing a comfortable, trustworthy system and will be a focus in all areas of transportation investments.

Safety and security include identifying and addressing existing safety and security concerns and building a transportation system that avoids future problems.

Increasing the safety and security of people using the region's transportation system is the fundamental goal of all agencies that deal with the system. Providing a safe and secure transportation system is paramount from planning to operations. Providing safety and security requires an understanding of what areas are vulnerable and why. Using data and analysis to identify these areas helps the region focus on the greatest risks and proactively avoid creating new vulnerabilities.

The number of traffic crashes with fatalities and/or serious injuries has been decreasing, but there is room for improvement. The Metropolitan Council joins its partners, including MnDOT, the Minnesota Department of Public Safety, the Minnesota Department of Health and local jurisdictions to advance the state's Toward Zero Deaths Program, which has a vision of a fatality-free highway system. Regional transportation partners also use best practices to provide and improve safe walking and bicycling, since pedestrians and bicyclists are the most vulnerable users of the transportation system.

Safety and security on transit is, in part, as much about the perception of safety, including providing environments that feel safer through lighting, design, and technology such as cameras. The region has installed cameras onboard buses and trains, and in some stations, and has its own Metro Transit police force that collaborates with local enforcement agencies to respond to incidents quickly and effectively.

Rail freight incidents occur less frequently than truck freight incidents, but tend to be high profile, the potential to cause more fatalities, injuries, and damage to property. Of recent concern is the rise in oil freight trains passing through the region. The Federal Railroad Administration has developed a *National Rail Safety Action Plan* that identifies safety improvements railroad companies need to take, such as improving or eliminating at-grade crossings. Other measures include maintaining sufficient right-of-way in case

there is a spill or derailment. Another notable rail freight safety and security issue is trespassing pedestrians and cyclists who are looking for short-cuts across rail tracks and yards. Nationally, over 500 people die each year in trespassing-related incidents. These trespassers also pose a security threat when there are shipments of hazardous materials.

Measuring Performance

Performance measures will be used to measure improved safety and security include:

- Number and rate of crashes with serious or fatal injuries
- Fatal or incapacitating injuries involving bicycles or pedestrians

Related Thrive MSP 2040 Outcomes: Stewardship, Livability, Equity

Goal: Access to Destinations

People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond.

Objectives:

A. Increase the availability of multimodal travel options, especially in congested highway corridors.

B. Increase reliability and predictability of travel time highway and transit systems.

C. Ensure access to freight terminals such as river ports, airports, and intermodal rail yards.

D. Increase transit ridership and the share of trips taken using transit, bicycling and walking.

E. Improve multimodal travel options to connect to jobs and other opportunities for people of all ages and abilities, and particularly for historically under-represented populations.

Key Takeaways:

The region will focus on providing a transportation system that offers practical and affordable options, so all users, regardless of their social or economic background, can get to the places they need to go.

This plan emphasizes the importance of improving and expanding transportation options through investments in a multimodal system of highways with MnPASS options, local and express bus service, transitways, a regional bicycle system, and a local pedestrian system.

The plan emphasizes providing a transportation system that connects people to jobs, activities, and opportunities. It supports a regional approach to investment and prosperity.

Providing access is transportation's fundamental purpose for people and businesses. There are ways in which access can be better provided and there are barriers to good access that need to be managed or eliminated.

Both population and employment are forecasted to increase in the coming years, which will increase congestion. Congestion management and reduction requires improvements to both state and local highways and practical options for multimodal travel. Examples of highway improvements include using technology to help manage the flow of traffic during rush hours and to clear incidents quickly, MnPASS lanes, and spot mobility or strategic capacity enhancements to state and local highways.

Multimodal options include a variety of transit services from bus and train service to dial-a-ride or shared ride, as well as bicycling and walking. In heavily traveled corridors, transit can be an advantage because of bus-only highway shoulders, ramp meter bypasses, and park-and-ride lots. MnPASS lanes are free for cars with two or more passengers, and provide congestion-free lanfes for transit. MnPASS also provides a subscriber option for single-occupant vehicles and small delivery trucks. Bicycle and pedestrian infrastructure will continue to be improved throughout the region with the aim of increasing access, connectivity, and safety.

Lack of access to frequent and convenient transit disproportionately affects historically underrepresented populations such as people of color, those with low incomes, or disabilities, who are less likely to drive or don't have access to a car. Improving transit options and accessibility for these communities increases opportunities for employment, education, and training.

Efficient freight transport through and within the region is vital to our economic competitiveness. Freight-related infrastructure such as ports and intermodal rail yards should be protected because it is expensive to relocate and recreate the facilities. Many of these facilities are located near highways for easy access through and beyond the region.

Measuring Performance

Performance measures that will be used to measure improved mobility and access to destinations include:

- Access to jobs
- MnPASS usage
- Percentage of travel by modes other than single-occupant vehicles
- Transit ridership
- Mode participation rate
- Peak hour excessive delay
- Average aircraft delay at MSP International Airport
- Regional bicycle transportation network implementation

Related Thrive MSP 2040 Outcomes: Equity, Livability, Prosperity

Goal: Competitive Economy

The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and state.

Objectives:

A. Improve multimodal access to regional job concentrations identified in *Thrive MSP 2040*.

B. Invest in a multimodal transportation system to attract and retain businesses and residents.

C. Support the region's economic competitiveness through the efficient movement of freight.

Key Takeaways:

The plan directs investment so the transportation system will serve the generations of today and tomorrow and attract talent and businesses looking for a place to prosper.

This plan expands the regional transit and bicycle systems and provides reliable options on the highway system to keep the region competitive.

Our connections to places beyond the region that foster its growth and economic prosperity will be strengthened by corridors that connect us statewide and beyond, reducing the impacts of congestion on freight corridors and supporting a strong airport system with national and international connections.

A good transportation system is fundamental to a robust and thriving economy. To continue being competitive, the region must shift its focus to operating and maintaining what we have while at the same time creating a more multimodal system that provides all its residents and businesses choices in how they or their freight moves from point A to B. Providing practical options to the single-occupant car benefits everyone, including those who want to drive and never use another mode. Providing people safe and convenient transportation choices such as walking, bicycling, and transit can remove cars from highways and streets, and increases quality of life for everyone.

An integrated multimodal transportation system helps to retain and grow existing businesses and industries, and attracts new ones. It also retains and attracts talent, which the market shows is increasingly seeking a less car-dependent lifestyle. The region will focus on investing in a multimodal system that builds on its well-developed highway system to expand and better integrate transit, bicycling, and walking improvements that support and strengthen the region's economy.

Thrive MSP 2040 has identified 42 job concentrations as of 2011. These job concentrations are contiguous areas that have at least 7,000 jobs at a net density of at

least 10 jobs per acre. The Council will continue to monitor employment patterns to identify new concentrations that meet these criteria. Transportation priorities should be geared toward providing good access to these concentrations while still addressing emerging needs in other areas.

Providing good access to freight terminals throughout the region is also key to this objective. As mentioned before, efficient freight movement is vital to the region's economy, especially maintaining existing freight infrastructure, which is often difficult and expensive to reproduce. Wherever possible, communities should identify and preserve land near highways for certain freight movement, particularly in existing industrial areas.

Measuring Performance

Performance measures will be used to measure transportation-related elements include:

- Travel time reliability for freight traveling on highways
- Percentage of existing population near high-frequency transit service
- Cost per passenger mile at MSP International Airport

Related Thrive MSP 2040 Outcomes: Prosperity, Livability, Sustainability

Goal: Healthy Environment

The regional transportation system advances equity and contributes to communities' livability and sustainability while protecting natural, cultural, and developed environments.

Objectives:

A. Reduce transportation-related air emissions.

B. Reduce impacts of transportation construction, operations, and use on the natural, cultural, and developed environments.

C. Increase the availability and attractiveness of transit, bicycling, and walking to encourage healthy communities and active car-free lifestyles.

D. Provide a transportation system that promotes community cohesion and connectivity for people of all ages and abilities, particularly for historically under-represented populations.

Key Takeaways:

The plan works toward state and regional goals for greenhouse gas and air pollutant emissions by factoring these considerations into the Metropolitan Council's operations and investment priorities. The plan also starts a dialogue on how all the region's partners, including local governments, can contribute to these efforts.

The plan supports a transportation system that considers the needs of all potential users while promoting the environmental and health benefits of transportation options like carpooling, transit, bicycling, and walking.

Investments in the transportation system will protect and enhance the natural, cultural, and developed environments, and will be identified through effective engagement with affected communities.

A special emphasis is put on avoiding, minimizing and mitigating impacts of the transportation system on people and the environment, especially disproportionately adverse impacts to people of color or people with low-incomes.

There are a number of ways to define health and environment that are relevant to transportation and the region's development. For example, health can include the physical well-being of people, the quality of the biophysical environment, or the potential for social capital for an entire community. Examples of environment include the air we breathe, the water we drink and play in, the weather we experience, the characteristics of the neighborhood we live in, and the built infrastructure of roads, bridges, and buildings. A healthy environment is one where impacts of transportation are considered and mitigated in as many ways as we can afford.

Transportation has an enormous impact on air quality. The region's transportation-related pollutant emissions account for:

- 68% of carbon monoxide emissions
- 40% of nitrogen oxide emissions (toxic by itself and an ozone precursor)
- 32% of volatile organic compound emissions
- 5% of particulate matter (small particles of pollution in the air that can be inhaled)

The region has been considered to be in "maintenance" or "attainment" since 1999 for all transportation-related pollutants regulated by the federal government − meaning we meet the Environmental Protection Agency's (EPA) acceptable standards for certain pollutants in the air. While the region has not exceeded the federal standards for fine particulate matter and ozone concentrations, current concentrations of those pollutants in the region reach 80% of standards. This indicates a need to further reduce transportation-related air pollution, most importantly to improve human health but also to avoid violating federal standards. Additionally, transportation accounts for one quarter of statewide greenhouse gas emissions, contributing to global climate change. The region supports state efforts related to the Next Generation Energy Act to reduce all greenhouse gas emissions to 80% below 2005 levels by 2050.

The region will consider air pollutant and greenhouse gas emission information as it makes investments with a target of helping to reduce transportation's contribution, particularly by supporting transportation options such as carpooling, transit, bicycling, walking, and shipping freight by rail or barge. The region will also develop more efficient land use and development patterns that contribute to lower pollutant and greenhouse gas emissions. But all of these will be the starting point for a broader conversation with local, regional, state, and federal partners about how the region can be more sustainable in our decision-making and outcomes.

If not appropriately managed, transportation construction and operations can negatively impact communities, including significant noise, pollution, and inaccessibility due to lane or sidewalk closures. It is critical for regional transportation providers to coordinate with each other, with communities, and other organizations such as Transportation Management Organizations (TMOs) to help diminish the effects of construction on residents, businesses, pedestrians, bicyclists, and drivers. Some actions include:

- Signage, detours, and maintenance of access for pedestrians and bicyclists
- Incentives to construction companies to work during off-peak construction times such as at night or on the weekends, where appropriate

- Financial and/or marketing support of businesses affected by disruption of roadway construction

Transportation can play a significant role in fostering personal and community health by increasing pedestrian and bicycle infrastructure and connecting them region-wide. Many residents in the region want the option of walking or bicycling to work, school, errands, and appointments but do not feel they have safe routes. The Metropolitan Council will continue to promote bicycle and pedestrian infrastructure including planning with communities to enhance, close gaps, and make critical connections in the system region-wide. Walkable and bikeable communities also tend to have healthier residents.

During the development of the Interstate system in Minneapolis and St Paul, communities of color and low-income communities were disproportionately affected. Many communities were severed. Streets and walkways that connected different parts of neighborhoods were interrupted by freeways. The legacy of the Interstate system has been both positive and negative as discussed earlier in this introduction. One of many goals moving forward is to help reestablish neighborhood connections that were lost, and design new transportation projects with an eye toward community cohesion, accessibility, and appropriate size and scale for people in- and outside motor vehicles.

An example was building of I-94 through the Rondo neighborhood in St. Paul. The freeway completely severed this historically vibrant and thriving African-American neighborhood, which both destroyed community connections and reduced opportunities for financial prosperity. Residents were separated from businesses and services, and those businesses were separated from key markets necessary to their success. Were the project proposed today as built, it would probably fail on the grounds that it disproportionately affected a historically underrepresented community.

While some may argue that the days of community-disruption project plans would are over, it's important to understand that transportation investments must connect communities and enhance access to opportunities rather than disconnecting them, making it more difficult for people to access jobs and opportunities. It's also important to assure that the people potentially affected by these projects and investments have an opportunity to assess the impact on their own communities and influence the ultimate decision.

Another example of highway infrastructure that provides important connections in this region, but also had unintended consequence of creating a barrier for area residents is along Highway 77 in Bloomington. The Mall of America, located along Highway 77, offers numerous jobs that were difficult for residents just west of the Highway 77/ Interstate 494 interchange to access. A roadway built from that neighborhood to the mall and surrounding businesses provided a safe solution to that barrier, for motorists, transit, bicyclists and pedestrians. This is an example of a solution that mitigated the negative on a community of a larger transportation system project.

With these considerations, whether near an area of concentrated poverty or simply involving a portion of a community that could benefit from access to jobs and commerce, our investments have a better chance of achieving equitable outcomes.

Measuring Performance

Performance measures that will be used to measure the transportation-related elements of state of the environment include:

- Miles traveled by bicycle and by pedestrians
- Vehicle-miles traveled per person
- Air emissions from on-road vehicles

Related Thrive Outcomes: Stewardship, Equity, Livability, Sustainability

Goal: Leveraging Transportation Investment to Guide Land Use

The region leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability.

Objectives:

A. Focus regional growth in areas that support the full range of multimodal travel.

B. Maintain adequate highway, riverfront, and rail-accessible land to meet existing and future demand for freight movement.

C. Encourage local land use design that integrates highways, streets, transit, walking, and bicycling.

D. Encourage communities, businesses and aviation interests to collaborate on limiting incompatible land uses that would limit the use of the region's airports.

Key Takeaways:

The Council will partner with local governments responsible for planning and implementing the land use and local infrastructure needed to support *Thrive MSP 2040*. Local governments will prepare comprehensive plans that address the policies in *Thrive MSP 2040* and system plans.

The plan emphasizes the importance of job concentrations and nodes along transportation corridors and the need for local governments to plan for more dense development and diverse uses especially in these areas. The plan also emphasizes the importance of freight terminals and corridors and their relationship to land use planning.

The plan will ensure that local government land use policies allow for the creation of livable communities that support stewardship and sustainability of the transportation system and the prosperity and livability of our region. This includes:

- Planning and implementing an ample system of interconnected local highways and streets
- Supporting higher expectations for land use around transit stations
- Including bicycle and pedestrian elements, and supportive tools in comprehensive plans
- Planning for the long-term needs of freight modes such trucks, barges, and railroads
- Balancing the needs of the aviation system with local land use decisions

This plan describes relationships between land use and transportation, and the importance of coordinating strategic planning for both. This coordination requires strong partnerships between the Council, MnDOT, other regional transportation partners, and local communities that plan for land use, regulate its implementation, and provide the local transportation system. These important relationships impact the sustainability and stewardship of our natural, cultural, and fiscal resources. They impact our choices for where we live, how we travel, and how we ship our freight.

To guide our growth equitably, efficiently, and sustainably, the Council will continue to collaborate with communities on their local plans to support their development and growth in ways that best meet their needs and the needs of the regional *Thrive MSP 2040* vision.

The intersection of land use, urban form, and the transportation system shapes the effectiveness of stewardship of transportation investments. The Council will work with local governments to align development patterns and highway investments by focusing growth and investment along corridors with strong potential for future transit or managed lanes. Areas outside these corridors may continue to develop but will receive only limited investments from federal or state sources for new or expanded highways.

An important emphasis of *Thrive MSP 2040* is encouraging local communities to guide denser and more mixed-use development to job concentrations and nodes along corridors. This will provide greater housing options near jobs and activities that are cost-effectively supported by highways, streets, transit, bicycling, and walking, creating more livable communities where the market demands them. Local communities can also identify local centers to emphasize for this type of development.

The region is changing its focus from expanding the highway system to operating and maintaining it and investing in an expanded network of transitways supported by strong bicycle and pedestrian systems. To correspond, local governments should plan for higher intensity land use near transitways, including:

- A mix of housing choices, retail, and other commercial uses around station areas, known as transit-oriented development.
- Communities designed for biking and walking, where residents can choose to use their car less (or not at all) to go shopping, get to a transit stop or station, get to work and school, and recreation areas.
- Building housing and commercial developments that are denser to create more successful and efficient transit service areas, including providing more transit service.
- Providing a mix of housing choices, including affordable options near transit to accommodate youth, the elderly, and populations looking for an alternative to driving.

Thrive MSP 2040 also emphasizes the significance, to our region's prosperity, of continuing to move freight efficiently. Our highway, railroad, river, and aviation systems will continue to be the foundation for these important freight movements. Freight infrastructure and land use − particularly riverfront and rail-accessible facilities − are difficult and expensive to reestablish.

Just as with freight-related land uses and infrastructure, the region's airports are important to the flow of commerce and people. Communities, businesses and aviation stakeholders should collaborate to:

- Limit residential and other incompatible land use encroachment near airports
- Limit negative impacts on adjacent communities including noise

Measuring Performance

Performance measures that will be used to measure the alignment of transportation and land use include:

- Industrial land near river/rail access
- Percentage of projected population and job growth near high-frequency transit service
- Inclusion of transit supportive policies in local comprehensive plans

Related Thrive Outcomes: Stewardship, Livability, Sustainability

Investing in the Region's Transportation System

Investments in the region's transportation system depend on a complex mix of funds and funding sources, including tax dollars from local, county, state and federal sources, user fees and fares.

From 2015 through 2040 - the duration of this Transportation Policy Plan - it is estimated that $91 billion will be available for transportation funding in the region. Of these, about 52% of funds are from local sources (taxes, fares), 34% are from state taxes and fees; and 14% are from federal sources. When spending these funds, about 45% are designated for local transportation, 38% for transit and 16% for highways.

This funding level will not meet the needs of the region's transportation system over time, and inadequate transportation funding remains a major issue facing the region. The condition and performance of our highways will decline if transportation funding continues at the current level. Current highway funding is increasing at less than the rate that costs are increasing, while construction and maintenance costs are increasing a a faster rate. Over time, this will lead to a greater number roads and bridges in the region in poor condition, with limited resources to address those issues.

For transit, current funding levels can maintain today's transit system, without improvement or expansion of the bus system, and provide slow growth for transitways (light rail, bus rapid transit). This funding level does not meet the projected demands for more transit service from a growing regional population filling an increasing number of jobs. Fortunately, federal programs such as the New Starts Capital Investment Grant program and local revenues from county sales taxes, will allow the region's transitway system to grow.

Identifying transportation priorities is essential when transportation dollars are limited. During this plan's development in 2015, the Metropolitan Council consulted with regional policymakers including county and city elected officials and staff, state agencies such as the Minnesota Department of Transportation (MnDOT), and the public to identify factors for setting investment priorities for highways and transit. The identified transportation investment factors are used to prioritize potential investments. They are incorporated into the regional outcomes noted in *Thrive MSP 2040* (the Metropolitan Council's overall plan for the region), as well as in the goals and objectives in this transportation plan. These investment factors can be found at URL.

Two Funding Scenarios

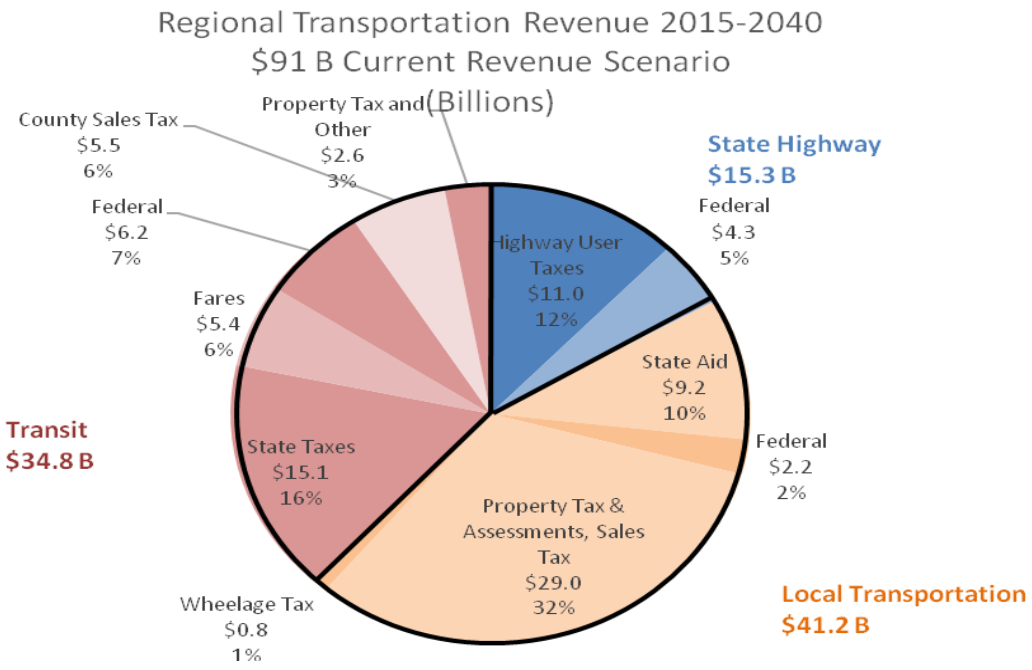
This Transportation Policy Plan uses two funding scenarios: *Current Revenue Scenario* and *Increased Revenue Scenario.*

The *Current Revenue Scenario* assumes that transportation funds will be available based on current laws and past experience (under federal regulations, this scenario is called "fiscally constrained"). The Current Revenue Scenario in this plan assumes fund growth

consistent with past growth rates and experience with revenue sources. This plan also includes recently enacted county sales tax and wheelage tax increases, and new state highway revenues provided in the 2017 legislative session. No other new increases or changes in federal, state or local taxes are assumed.

The *Increased Revenue Scenario* represents how the region could invest if funds were available beyond past growth rates implemented through policy changes by local, state, or federal transportation funding sources. Under federal regulations, the programs or projects identified in the *Increased Revenue Scenario* are examples of what might be achieved with additional revenues, but these projects are not part of the approved plan.

Figure 2: Regional Transportation Revenue and Spending 2015-2040



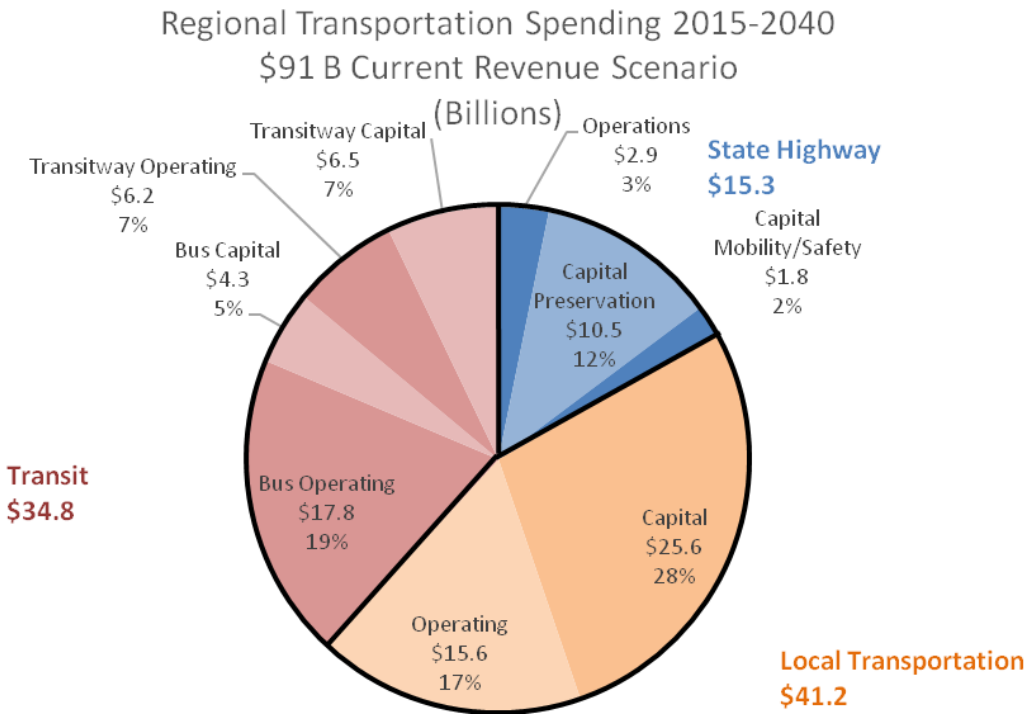


Figure 2 – the two pie charts above - shows the region's revenues and spending estimated from 2015 to 2040 for all transportation purposes under this plan's Current Revenue Scenario. Over the 26-year duration of this plan, an estimated $91 billion will be available for transportation purposes region-wide. Regional transportation revenues and spending are categorized into three broad types:

- Local transportation includes revenues and spending by cities and counties on local transportation systems, including roads, streets, and local bicycle and pedestrian systems.
- The state highway category includes revenues and spending on the state highway system by MnDOT in the metropolitan area.
- The transit category includes revenues and expenditures to build and operate the buses and transitways by all regional transit providers, counties and other local governments.

Regional Transportation Revenues

Funding for the region's transportation system comes from local, state, and federal sources. These include user fares, fees, general state and local taxes, federal formula funds and competitive federal funds, some of which the region competes for with other metropolitan areas. The general breakdown of regional transportation funding is as follows:

- 58% - Local sources (including property taxes, county sales taxes, fares, and user fees)
- 38% - State taxes and fees
- 14% - Federal sources

A major portion of the state and federal sources is the gas tax.

Over the 26-year duration of this plan, funding sources are assumed to grow at varying rates depending on the source and history of the past revenues. Details on the revenue growth assumptions can be found in Chapter XX, Transportation Finance, in the Transportation Policy Plan (update 2018) at URL.

Local Funds and Local Decisions Support Regional Transportation

Transportation funding provided through local revenue sources, such as property taxes, provide a significant percentage of total funding for regional transportation projects. In the past, property taxes provided a very small amount of funds for regional transportation investments on the highway and transit systems. However, recent changes in state law, which allowed for the implementation of county sales and wheelage taxes, now provide funding for regional transit and highway investments.

As a result, the funds local jurisdictions are investing in region-wide transportation improvements is increasing. An example is the implementation by Carver, Hennepin, Ramsey, and Scott counties of a half-cent sales tax dedicated to transportation. Anoka, Dakota and Washington counties have a quarter-cent sales tax dedicated to transportation. Several of these counties are proposing using these funds for improvements outside of their own boundaries but on the state-owned highway system operated by MnDOT.

The Regional Solicitation is another source of transportation funds whose uses are determined by local governments. Every other year, through the Regional Solicitation, counties and cities make application and compete for federal transportation funds for transportation projects. As the region's federally designated metropolitan planning organization, the Metropolitan Council and its Transportation Advisory Board review these applications using an objective, data-driven, transparent process, and determine how funds are allocated.

Ten application categories are available, including roadway expansion, bridge rehabilitation and replacement, multiuse trails and bicycle facilities, and transit expansion. The availability of Regional Solicitation funds has increased the role of local jurisdictions in regional transportation planning and funding. Local jurisdictions receiving these federal transportation dollars increasingly are dedicating these funds to improve region-wide transportation amenities. For example, all seven roadway expansion projects selected in the 2016 Regional Solicitation were interchange or lane expansion projects led by cities or counties on the state highway system.

You can learn more about the Regional Solicitation process on p. XX in this section.

Dedicated Funds for Transportation

No matter their source, nearly all transportation funds are allocated for use on roadways or highways, or are allocated for transit. Funds specifically designated for highways and funds allocated for transit are separate and cannot be redistributed between them.

Table 1 shows both the approximate 2018 amounts expected from each revenue source and the total amount expected to be raised from that revenue source for transportation, over the 26-year duration of the plan.

Table 1: Metropolitan Area Projected Revenues, 2015-2040

REVENUE SOURCES	Ongoing or Project Specific Funding	2018 Annual Amount	Total Current Revenue Scenario 2015-2040
State Highway Revenues			
Highway User Taxes	Ongoing	349	11,000
Federal	Ongoing	140	4,300
Subtotal State Highway Revenues		**$489 M**	**$15.3 B**
Transit Revenues			
Motor Vehicle Sales Tax	Ongoing	291	10,900
State General Fund/Bonds	Ongoing	139	4,200
Fares	Ongoing	128	5,400
Federal Regional Solicitation	Ongoing	24	750
Federal Formula (5307, 5340)	Ongoing	88	3,200
Fed. Capital Investment Grants (CIG)	Project-Specific	155	2,300
County Sales Tax	Project-Specific	273	5,500
Property Tax and Other	Project-Specific	179	2,600
Subtotal Transit Revenues		**$1.27 B**	**$34.8 B**
Local Transportation Revenues			
Highway User Taxes/Veh. Lease Tax	Ongoing	291	9,200
Regional Solicitation/HSIP	Project-Specific	64	2,200
Wheelage Tax	Ongoing	26	800
Property Tax/Sales Tax/Assessments	Ongoing	926	29,000
Subtotal Local Transportation Revenues		**$ 1.3 B**	**$41.2 B**
		2018	2015-2040
TOTAL REVENUES		**$3.1 B**	**$91.3 B**

Regional Transportation Spending

Transportation expenditures, or spending, generally fall into one of two categories: capital expenditures or operations expenditures. Local transportation, state highways and transit spending categories all have capital and operations expenditures. Capital expenditures include new construction, reconstruction and improvement or replacement of transportation facilities, such as rail stations. Operations expenditures include wages, vehicle maintenance, snowplowing, and repair. Table 2 shows regional transportation spending with both an annual amount for 2018 and total transportation spending – more than $91 billion – expected from 2015-2040, the duration of this transportation plan.

Transit operations are different from highway or roadway operations. For example, transit operations include vehicle, driver and maintenance costs associated with running the services. For roadways, equivalent operational expenses are incurred by private vehicle drivers, as driving is mostly a cost to individuals. Examples of these costs include the purchase of private vehicles, fuel costs, insurance and maintenance. These privately-incurred expenses, when totaled, exceed public roadway expenditures.

Table 2: Regional Transportation Planned Investments Summary

EXPENSES	2018 Annual	Current Revenue Scenario 2015-2040
State Highways Expenses		
Operations	88	2,900
Capital Asset Preservation	292	10,500
Capital Mobility /Expansion	108	1,800
Subtotal State Highways Expenses	**$489 M**	**$15.3 B**
Transit - Bus and Support System		
Operations	479	17,800
Capital	65	3,600
Regional Solicitation	24	750
Subtotal Bus and Support System	568	22,150
Transit - Transitway System		
Operations	93	5,300
Capital	566	5,600
Locally designated to future projects	-	1,800
Subtotal Transitway System	659	12,700
Subtotal Transit Expenses	**$1.27 B**	**$34.8 B**
Local Transportation Expenses		
Operating	495	15,600

Capital	812	25,600
Subtotal Local Transportation Expenses	**$1.3B**	**41.2 B**
	2018	2015-2040
TOTAL EXPENSES	**$3.0 B**	**$91.3 B**

Highway Investment Summary

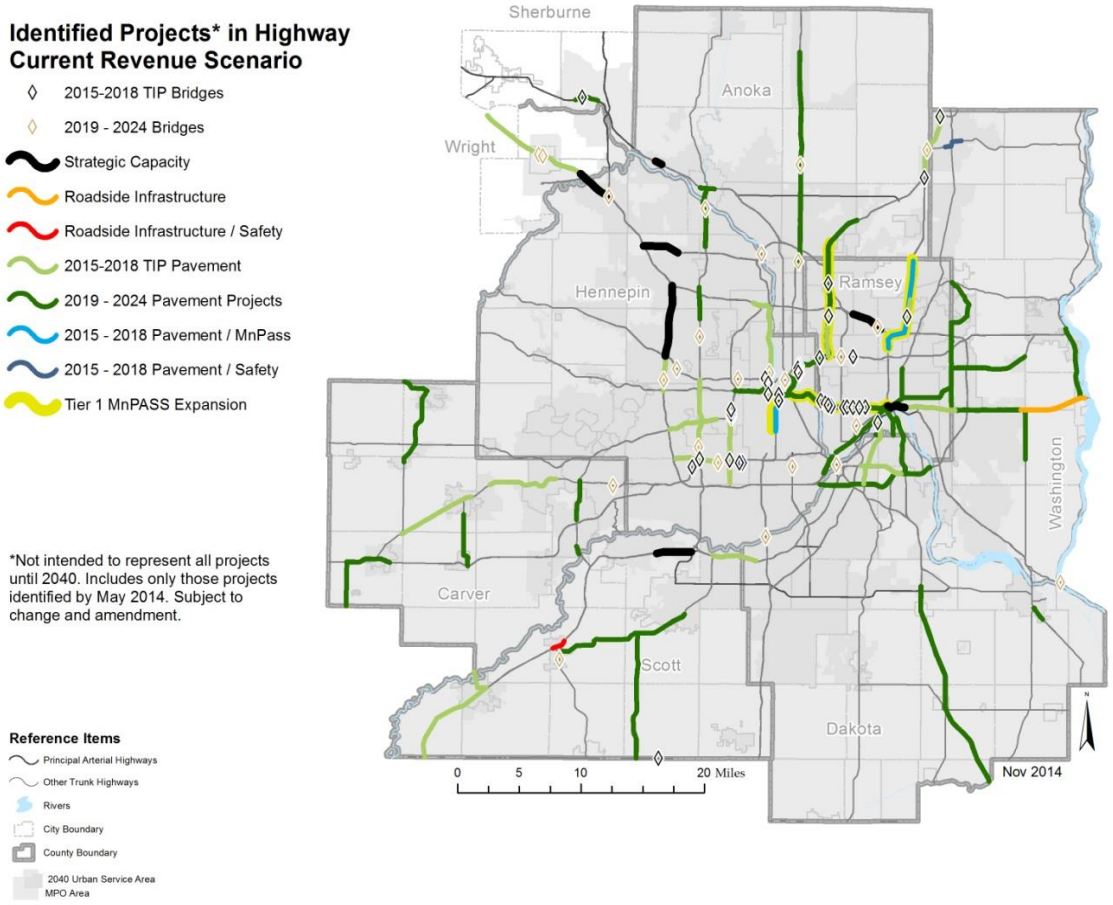
Chapter 5, Highway Investment Direction and Plan, of the 2040 Transportation Policy Plan (2018 update) continues the investment direction set in the previous Transportation Policy Plan (2015) and the Minnesota State Highway Investment Plan published in January 2017. These include:

- Placing priority on operating, maintaining, and rebuilding the existing state highway system
- Continuing to make safety improvements on the Regional Highway System a priority
- Implementing mobility improvements such as traffic management technologies, spot mobility improvements (improve traffic flow and provide bottleneck relief), new or extended MnPASS (high-occupancy toll) lanes, and affordable strategic capacity enhancements (such as new interchanges)

In the Current Revenue Scenario in Chapter XX (URL), $15.3 billion are anticipated to be available for state highway projects for the years 2015-2040. Seemingly a sizeable total, planning and analysis concludes that it will not be adequate to fully fund the core functions of operating, maintaining and rebuilding the existing state highway system. And while these core functions must happen in order to preserve the existing state highway system, this system will not accommodate the region's growing highway needs. For our growing region to continue to prosper, adequate funds are needed for both existing system preservation, as well as system modifications that increase mobility. These modifications would require additional funds.

Figure 4 illustrates the highway investments that have been identified to date in the 2018-2027 timeframe. Because of identified funding constraints, few projects that increase mobility on our highways are anticipated after 2026. As mentioned earlier, some highway projects that increase mobility could be funded and led by local jurisdictions through new or expanded county sales and wheelage taxes.

Figure 4: Identified Highway Projects through 2027 Map still being updated



Additional information about the categories identified in Figure 4 can be found in Chapter XX, Highway Investment Direction and Plan of the 2040 Transportation Policy Plan (2018 update) found at URL.

The Increased Revenue Scenario in this transportation plan calls for an additional $9 billion to $11 billion (in current dollars) above the Current Revenue Scenario. It is based on the 2016 update to MnDOT's Minnesota State Highway Investment plan, plus updated information from MnDOT. Spending in the Increased Revenue Scenario would include programs such as:

- Requirements for additional highway operations and maintenance funding, estimated at $500 million - $1 billion, a 20-30% increase over current funding
- Increases in highway and other preservation of approximately $4 billion to $5.5 billion, a 40-50% increase over current spending levels
- Additional improvements for improved mobility and access projects of $4 - $5 billion, a 200-300% increase over current spending levels

Transit Investment Summary

Chapter XX, Transit Investment Direction and Plan, includes about $35 billion (calculated according to the year the funds will be spent) of transit investments under the Current Revenue Scenario. Additional bus and support (like customer information centers, scheduling centers, and maintenance facilities) system expansion and transitway projects are identified for potential investments in the Increased Revenue Scenario. A summary of the plan's outcomes for the Current Revenue Scenario for transit is summarized below.

Current Revenue Scenario – Bus and Support System

The bus and support system includes local, express, dial-a-ride, and vanpool services that are available throughout the entire metropolitan area.

- The region is able to operate and maintain the existing bus and support system with current revenues.
- No significant expansion of bus service is available in the current revenue scenario beyond the growing demand for Metro Mobility dial-a-ride service for people with disabilities.
- There are funds for limited expansion and modernization of the bus and support system through maintenance and preservation efforts and through competitive funds like the Regional Solicitation or unique federal programs.

Current Revenue Scenario – Transitway System .In the Current Revenue Scenario, the region is able to operate and maintain the existing transitways, which include the METRO Blue Line, METRO Green Line, METRO Red Line, A Line, and Northstar Line.

In the next decade, the region also expects to expand the transitway system by:

Building and operating five additional METRO lines:

- METRO Orange Line (I-35W South Bus Rapid Transit)
- METRO Green Line Extension (Southwest Light Rail)
- METRO Blue Line Extension (Bottineau Light Rail)
- METRO Gold Line (Gateway dedicated bus rapid transit)
- Rush Line dedicated bus rapid transit
- Building another BRT line on an arterial (urban street) roadway: C Line (Penn Avenue North)

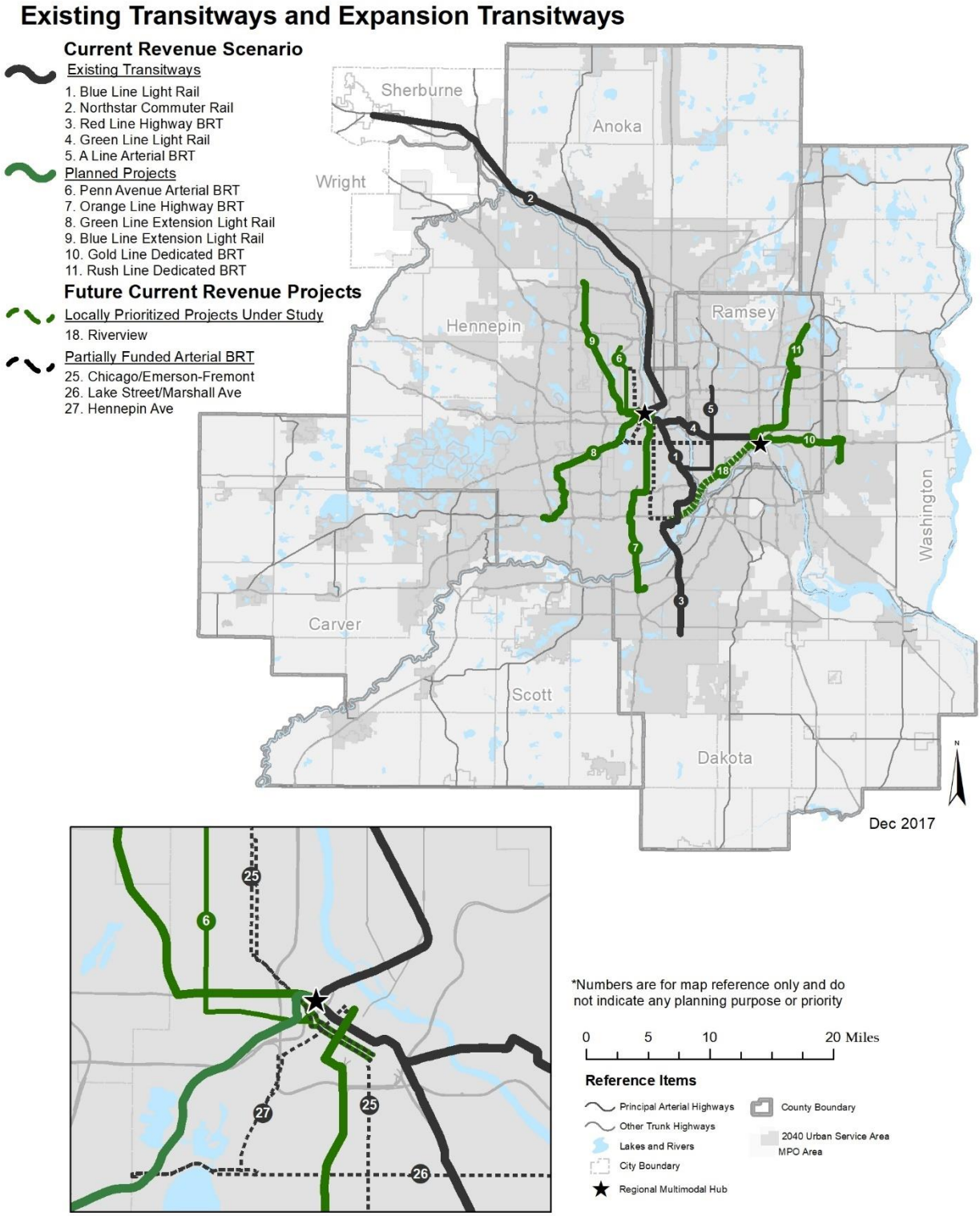
With several metro-area counties generating revenues for transit investments, a number of other priorities could emerge as county plans are finalized. In Ramsey County, the Riverview Corridor Policy Advisory Committee has developed a modern

streetcar project and made it a priority in their funding plans and this plan assumes the project will be ready for a future update or amendment to the Transportation Policy Plan.

In addition, funding for three BRT lines on arterial streets, like the A and C lines, has been identified, at least for parts of their implementation. This includes BRT on Chicago-Emerson-Fremont Avenues in Minneapolis, Lake Street and Marshall Avenue in Minneapolis and St. Paul, and Hennepin Avenue in Minneapolis. Planning and engineering work on these corridors will continue to advance until all the funding is identified for a future update or amendment to the Transportation Policy Plan.

A number of other policy groups and local project sponsors have developed study recommendations for transit projects throughout the region. These projects cannot be included in the Transportation Policy Plan's Current Revenue Scenario until their funding outlook meets the reasonableness requirement for federal transportation planning. These projects are included in the Increased Revenue Scenario but could be amended into the Current Revenue Scenario if their status changes.

Figure 5: Map of Existing Transitways and Current Revenue Scenario Expansion Transitways



Increased Revenue Scenario - Bus and Support System

The Increased Revenue Scenario includes an expansion of funds for bus service averaging 1% per year, between 2015 and 2040. The needs for bus service likely exceed

this estimate – the Regional Service Improvement Plan (described in the Transit Investment Direction and Plan, chapter 6) provides the basis for the most current assessment of these needs. The capital needs for bus service expansion are included in the Increased Revenue Scenario. These would provide opportunities to modernize the bus system and offer an improved overall customer experience.

The improvements in bus service under the Increased Revenue Scenario would provide for:

- Improved frequencies and hours of service on existing bus routes for more reliable, attractive service to more destinations
- Expanded bus route coverage to new areas, with an emphasis on connecting medium- and high-density residential areas with jobs and transitways
- Expanded commuter and express bus routes to new markets and improved routes where capacity is needed

Bus service expansion would be prioritized based on investment factors in Chapter 6, Transit Investment Direction and Plan, and would identify opportunities for all regional transit providers.

Under the Increased Revenue Scenario, modernization and expansion of transit facilities would provide for:

- Improved or expanded customer facilities including more shelters, better customer information, improved multimodal connections, and more amenities
- New and expanded park-and-rides
- Expanded bus garages, layover facilities, and operations support facilities associated with the expansion of the system

Increased Revenue Scenario – Transitway System

The Increased Revenue Scenario identifies potential projects for accelerated investment in the transitway system by 2040. The level of investment and a list of prioritized projects will depend on a number of factors, including the details of proposed investments. There is a level of uncertainty in any project cost estimate while during the planning process. Similarly, the need for funding to operate and maintain a transitway project depends on when a project would open, which is currently undetermined in this plan for the Increased Revenue Scenario. The technical and policy investment factors for setting transitway priorities would be considered in an Increased Revenue Scenario in a future plan update. For more information, see “Transit Investment Direction and Plan.”

This scenario could reasonably include investments in corridors identified in Figure 6 - Transitway System in the Increased Revenue Scenario - which are categorized based on their development status as follows:

Projects with study recommendations in advanced stages of development (e.g. environmental documentation or early engineering):

- METRO Red Line future stages
- Nicollet-Central modern streetcar

Projects with study recommendations:

- Midtown rail
- Red Rock bus rapid transit
- West Broadway modern streetcar
- Highway 169 bus rapid transit

Projects under study or to be studied:

- METRO Orange Line Extension
- Highway 36
- I-35W North
- I-394/Highway 55
- Robert Street
- North Central

The Increased Revenue Scenario could also reasonably include the following arterial bus rapid transit investments[1], beyond the funded and partially funded projects in the Current Revenue Scenario:

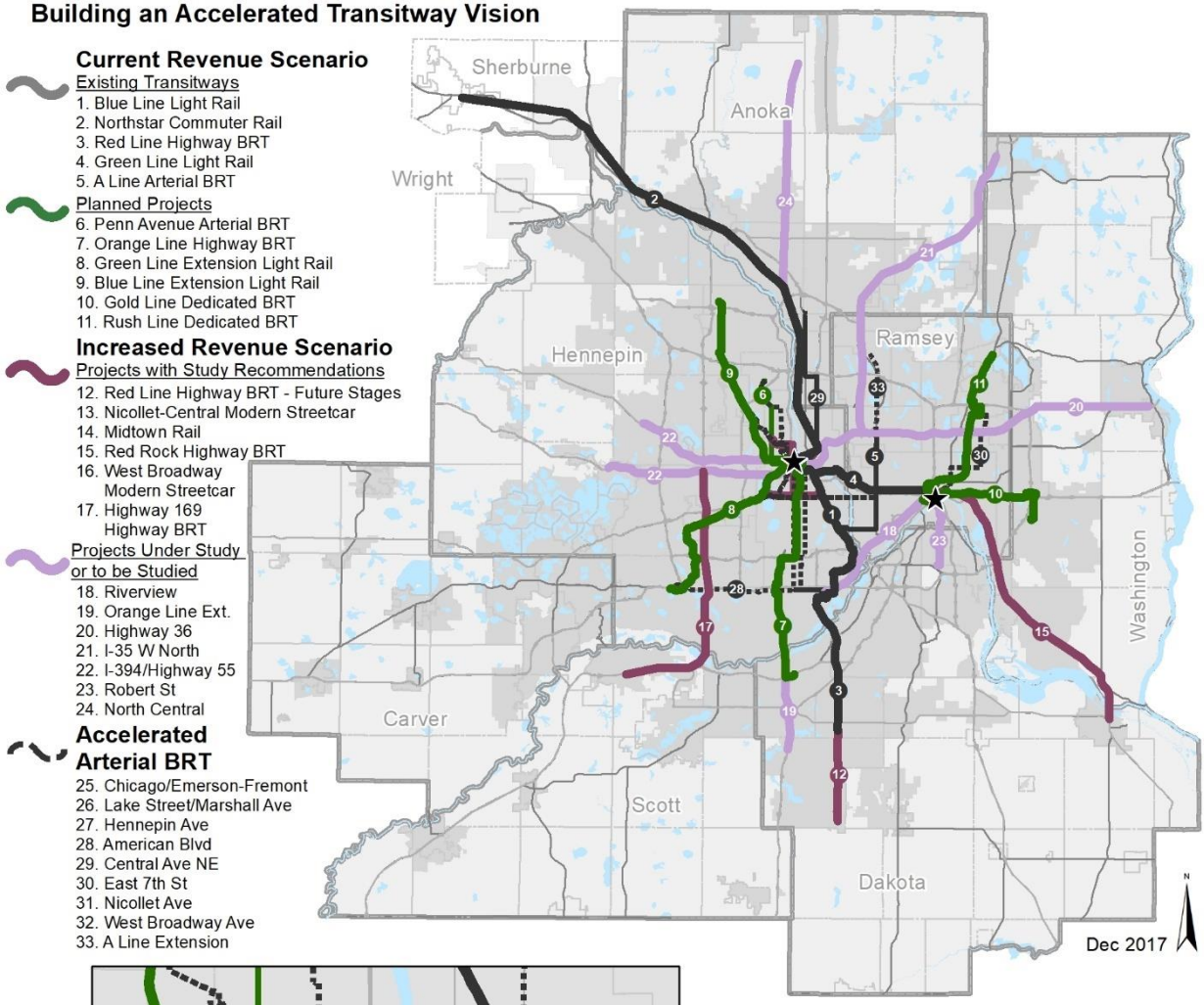
- American Boulevard
- Central Avenue NE
- East 7th Street
- Nicollet Avenue
- Robert Street
- West Broadway Avenue

[1]Several arterial bus rapid transit corridors are under consideration for other modes, such as modern streetcars.

Figure 6: Map of Transitway System in an Increased Revenue Scenario – Building an Accelerated Transitway Vision

Transitway System in the Increased Revenue Scenario

Building an Accelerated Transitway Vision



Current Revenue Scenario

Existing Transitways

1. Blue Line Light Rail
2. Northstar Commuter Rail
3. Red Line Highway BRT
4. Green Line Light Rail
5. A Line Arterial BRT

Planned Projects

6. Penn Avenue Arterial BRT
7. Orange Line Highway BRT
8. Green Line Extension Light Rail
9. Blue Line Extension Light Rail
10. Gold Line Dedicated BRT
11. Rush Line Dedicated BRT

Increased Revenue Scenario

Projects with Study Recommendations

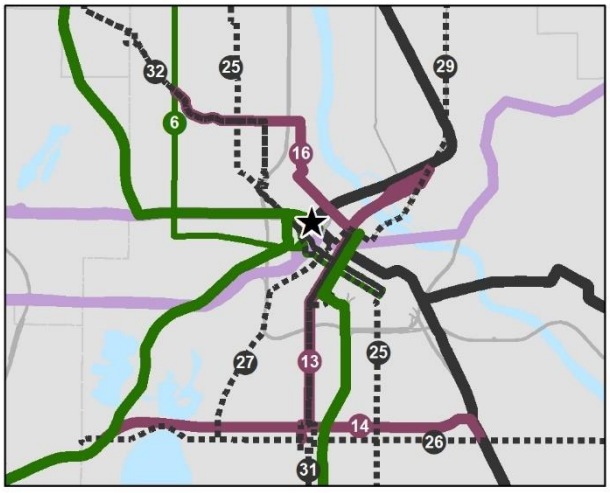
12. Red Line Highway BRT - Future Stages
13. Nicollet-Central Modern Streetcar
14. Midtown Rail
15. Red Rock Highway BRT
16. West Broadway Modern Streetcar
17. Highway 169 Highway BRT

Projects Under Study or to be Studied

18. Riverview
19. Orange Line Ext.
20. Highway 36
21. I-35 W North
22. I-394/Highway 55
23. Robert St
24. North Central

Accelerated Arterial BRT

25. Chicago/Emerson-Fremont
26. Lake Street/Marshall Ave
27. Hennepin Ave
28. American Blvd
29. Central Ave NE
30. East 7th St
31. Nicollet Ave
32. West Broadway Ave
33. A Line Extension



Increased Revenue Scenario would also include at least 1% average annual bus expansion.

*Numbers are for map reference only and do not indicate any planning purpose or priority

0 5 10 20 Miles

Reference Items

- Principal Arterial Highways
- Other Trunk Highways
- Lakes and Rivers
- City Boundary
- Regional Multimodal Hub
- County Boundary
- 2040 Urban Service Area MPO Area

Local Transportation Investment Summary

Local transportation includes all projects that are implemented or operated by cities and counties on local transportation system within their boundaries. These include local road and street operating and capital expenditures. It also includes expenditures for bicycle and pedestrian projects. As mentioned earlier, several counties also are investing in region-wide transportation system improvements.

Local transportation operations and capital expenditures are funded by three primary revenue sources— local property taxes and assessments, highway user taxes and federal revenues. The highway user taxes are allocated to cities and counties based on state constitutional and statutory formulas that provide state-aid for county and municipal state-aid systems. According to MnDOT's long-range estimates, highway user revenues, for use by local jurisdictions for transportation will grow over the period of the plan by 2% annually.

As mentioned earlier, federal revenues are allocated to cities and counties for transportation through the biennial (every two years) Regional Solicitation process. The Regional Solicitation allocates federal funds available to the region through the federal Surface Transportation Block Grant program (STBG), Congestion Mitigation Air Quality (CMAQ) and Highway Safety Improvement Program (HSIP). The process is competitive between local project sponsors, like cities and counties. The Metropolitan Council and its Transportation Advisory Board, in their role as the region's metropolitan planning organization, use a detailed and transparent set of criteria to allocate the funds. Because these revenues are allocated through a competitive process every two years, it is difficult to know how much will be available to local governments. Based on past allocations of the federal funds, along with inflationary assumptions of 2.2% annually for federal revenues, this plan estimates that approximately $2.2 billion of federal revenues will be available for local transportation over the period of this plan. An additional $750 million from Regional Solicitation funds is expected to be allocated to transit and is reflected in the transit investment summary.

It is difficult to know how local spending on transportation will grow over the period of the plan. This plan assumes local transportation expenditures will grow at about the rate of inflation, approximately 4.5% annually for capital expenditures and 3% for operations spending. Because state and federal revenue for local use are growing at a rate less than inflation, locally controlled revenue sources, local property taxes and fees, and county transportation sales tax and wheelage taxes will be required to grow at a rate that exceeds inflation in order to maintain current levels of local transportation spending.

In 2018, the County Arterial Preservation study documented current pavement conditions on the A-minor arterial system as largely in good to fair condition. Minnesota Highway 5 in Carver County and County Highway 14 in Anoka County are examples of A-minor arterial roadways. Based on current policies and funding levels, the study estimated a funding gap for pavement preservation between 2018 and 2040 of between $800 million and $4 billion for the metro area A-minor system. The study proposed a

number of ways that this gap could be addressed including shifting more transportation resources to preservation and away from other needs, and continued improvement in preservation practices and technologies. Without additional revenue these strategies alone will be insufficient to maintain the regional highway system.

Regional Bicycle Transportation Network [Map being updated]

This 2040 Transportation Policy Plan establishes the Regional Bicycle Transportation Network as the official regional bikeway network. It sets the region's priority vision for bicycle planning and investment.

The network is based on the Regional Bicycle System Study analysis and prioritization of potential corridors. Factors in that study included bicycle trip demand, network connections, social equity, population and job density, and connections to transit. Further details on the study can be found here [URL].

This network serves as the "backbone" arterial network to accommodate daily bicycle trips by connecting regional destinations and local bicycle networks. Additional goals include establishing an integrated and seamless network of on-street bikeways and off-road trails, to encourage cities, counties, park agencies, and the state to plan and implement future bikeways that support the overall network vision.

Because there is limited funding for bikeway amenities at all levels, this regional network is planned to have the greatest potential to attract new riders. Specific facility treatments that can improve the attractiveness of the regional network to potential bicyclists are provided in the Bicycle and Pedestrian Investment Direction (Chapter 8) later in this document. Cities, counties, and parks agencies are also encouraged to plan and implement local bicycle facilities that connect their local bikeway networks to the regional network.

Aviation

Maintenance of existing airport facilities is the priority for aviation investments. Enhancements for the safety and security of air operations, many of which are required and funded by Homeland Security or Federal Aviation Administration, will also continue to be a priority.

Planned investments in the aviation system are demand driven and subject to change. They are reviewed every five to seven years as each airport updates its Long Term Comprehensive Plan. Larger projects beyond maintenance are not built unless needs warrant implementation.

An Environmental Assessment has been completed by the Metropolitan Airports Commission for all airport projects identified through 2020. Planned investments include a potential Minneapolis-Saint Paul International Airport (MSP) Terminal 2 expansion, since existing terminals are not capable of handling passenger numbers forecasted. Many of the future projects are landside based (e.g. terminals, roads,

parking) and in progress, including roadway work, adding a hotel to the MSP campus, and large-scale terminal rehabilitation. The most recent long-term comprehensive plans also recommend runway extensions or runway relocations at Airlake Airport, Lake Elmo Airport and South Saint Paul Airport. Preparation of Environmental Assessments and Environmental Assessment Worksheets are in progress at Lake Elmo and Crystal Airport.

Performance Outcomes

This Transportation Policy Plan builds desired regional outcomes as identified in *Thrive MSP 2040* and discussed in the Goals and Objectives section: stewardship, prosperity, equity, livability, and sustainability. This plan also addresses federal transportation planning requirements including Environmental Justice and the development of a performance-based transportation planning and programming process as required by Moving Ahead for Progress in the 21st century (MAP-21). Key performance outcomes are summarized here.

Equity and Environmental Justice

An important consideration for the Transportation Policy Plan is its impact on all populations in this region, particularly those who have been historically underrepresented, including communities of color, low-income populations, people with disabilities, and people with limited English proficiency. Past plans adhered to federal requirements for Environmental Justice; this plan further responds to additional aspirations for equity set forth in *Thrive MSP 2040*. In this plan, the terms "people of color" and "low-income households" are used to address the federal Environmental Justice requirements for "minority and low-income." Where regional approaches to pursuing equity are discussed, broader language is used, such as "all races, ethnicities, incomes and abilities."

Specific strategies and investments identified in the Transportation Policy Plan serve to create benefits or mitigate impacts on historically underrepresented populations, including communities of color, low income populations, people with disabilities, and people with limited English proficiency. The following summarizes these key strategies and investments. See Chapter XX, "Equity and Environmental Justice" for additional detail and discussion (URL).

- **Public Engagement**: The Council prepared the *2040 Transportation Policy Plan* under its Public Participation Plan for Transportation Planning and has built on the extensive outreach and engagement completed for *Thrive MSP 2040*, including targeted community engagement with historically underrepresented communities.
- **Healthy and Cohesive Communities**: Historically, transportation investment decisions that encroached upon, divided, or displaced neighborhoods, cut off access to the regional transportation system or blocked multimodal options have done great harm to communities of color and low-income populations. The *2040 Transportation Policy Plan* seeks to reverse this direction by promoting the development and enhancement of healthy, connected communities.
- **Transit and Pedestrian Safety**: People of color, low-income residents, and people with disabilities currently use the regional transit and pedestrian systems

at higher rates than the general population and are more likely to be vulnerable when they are traveling.

- **Provision of Options**: Key to the philosophy of the Transportation Policy Plan is the provision of options. The expansion of options to travel and to access employment and other opportunities without requiring an automobile is especially important to low-income populations, who are less likely to own or have access to a vehicle.
- **Focus on Preservation**: While an equity assessment of historical preservation and maintenance investments and system condition has not been performed, higher concentrations of low-income populations and people of color can be found in older areas of the region which would benefit from an increased focus on preservation.
- **Transit Service Planning**: Many of the Transportation Policy Plan's strategies are aimed at improving the preservation the transportation system in the urban center communities, where the highest concentrations of low-income populations and communities of color are currently located.
- **Spatial Analysis of Investments**: The spatial analysis of investments planned in the Current Revenue Scenario does not result in disproportionately high and adverse impacts to historically underrepresented populations.
- Accessibility Analysis of Investments: TO BE COMPLETED FOLLOWING ANALYSIS

Air Quality

The federal Environmental Protection Agency has designated the Twin Cities region as a limited maintenance area for carbon monoxide. For air quality conformity analysis, this area includes the seven-county Metropolitan Council jurisdiction plus Wright County and the City of New Prague. A map of the area, is included in Appendix XX. Pursuant to the Air Quality Conformity Rule, the Council certifies that this plan conforms to the State Implementation Plan and does not conflict with its implementation.

Transportation System Performance Measurement and Monitoring

Federal transportation funding law requires that the metropolitan planning process establish and use a performance-based approach to transportation decision-making. The Federal Highway Administration has issued rules to implement the performance-based approach. The rules address challenges facing the highway system, including:

- Improving safety
- Maintaining infrastructure condition
- Reducing traffic congestion
- Improving efficiency of the system and freight movement
- Protecting the environment
- Reducing delays in project delivery

In addition, the Federal Transit Administration (FTA) has implemented performance measures addressing transit infrastructure condition.

Implementation of these performance measures by the Minnesota Department of Transportation (MnDOT) and the Metropolitan Council are detailed in the federal rules. The two agencies must establish targets for each performance measure. The safety performance measure must be reviewed annually in compliance with National Highway Traffic Safety Administration (NHTSA) reporting requirements. All other measures must be reviewed biennially with 2-year and 4-year targets being set by MnDOT. The Metropolitan Council is required to either support the relevant MnDOT 4-year target or establish a target within 180 days following the establishment of the state target (the Council is not required to address the project delivery performance measure). At this point in time, MnDOT and the Council have only adopted targets for the safety performance measures.

In addition to the federally-required performance measures, the Transportation Policy Plan includes a number of measures developed to better assess the plan's impacts on issues important to the region. The historic trends of many of these measures are documented in the 2016 Transportation System Performance Evaluation. The Council is required to prepare this assessment prior to the update of each Transportation Policy Plan (insert URL). Key findings from the initial performance measurement are summarized below. See Chapter XX, Transportation System Performance Evaluation, for more detail and discussion.

These local measures were based on the measures reported in the previous 2040 Transportation Policy Plan adopted in January 2015 and developed in coordination with the region's transportation providers. Targets for relevant local performance measures and the federal measures will be developed and adopted by the end of 2018.

By implementing the transportation projects identified in the Current Revenue Scenario, the region is forecast to experience the following outcomes by 2040. The point of comparison is the transportation system as it exists in 2017 with no additional investments.

- Forecast vehicle miles traveled- 90,092,000 (20% more than existing, 0.2% more than No Build)
- Forecast vehicle miles traveled per capita- 24.7 (2% less than existing, 0.2% more than No Build)
- Forecast Transit Ridership- under development
- Percentage of people using transit- under development
- Percentage of people walking- under development
- Percentage of people biking- under development

Public Engagement

The *2040 Transportation Policy Plan* was prepared following the Metropolitan Council's Public Engagement Plan and its Public Participation Plan for Transportation Planning, which meets requirements of 23 CFR§450.316 and federal guidance on Environmental Justice. [INSERT LINKS TO PEP AND PPP]

This transportation plan was built on the extensive outreach and engagement activities, that informed the development of *Thrive MSP 2040.* In developing *Thrive MSP 2040*, the Council engaged thousands of residents throughout the region, including targeted community engagement with historically underrepresented communities.

In addition, this plan, and its related elements, was created in collaboration with technical subject matter experts and policymakers who serve the Transportation Advisory Board and its technical advisory committees. The members of TAB and the technical committees reflect all levels of government (city, county, regional, state, federal) and interested parties who represent different transportation modes and community interests.

The Transportation Policy Plan strategies listed under the "Healthy Environment" goal commit the Metropolitan Council and its regional transportation partners to foster public engagement in all systems planning and project development. Projects in the Transportation Policy Plan's Work Program, and related studies performed by local government partners, the Metropolitan Council and MnDOT since 2015, are included as public engagement. These studies led to changes in regional policy or adjustments to this 2018 update to the 2*040 Transportation Policy Plan.*

The full Work Program can be found [insert URL].

An overview summary of that study-based engagement is below:

People engaged	More than 14,500
Stakeholders involved	More than 600
Meetings/interactions	Nearly 300
Communities and interest groups engaged	Communities of color People with disabilities Immigrant and refugee groups Other racial and ethnic groups LGBTQ communities Low-income communities Transit-dependent populations Senior populations
Methods used	Visualization techniques Open houses Stakeholder meetings

	Online tools Bus-stop outreach Focus groups One-on-one and small group meetings Workshops Townhall-style meetings Pop-up meetings Listening sessions Surveys

Mandates and Requirements for Regional Transportation

State Mandated Comprehensive Guide and Related Systems Plans

This Transportation Policy Plan is based on the regional comprehensive development guide and plan, *Thrive MSP 2040,* that the Council is required by state law (Minn. Stat. 473.145) to prepare every 10 years for Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties. *Thrive MSP 2040* provides a policy framework for regional systems plans for water resources, regional parks, housing, and transportation. The Transportation Policy Plan also fulfills state requirements for land transportation and aviation plans (Minn. Stat. 473.146), and incorporates and supports state goals from the Next Generation Energy Act (Minn. Stat., sec 216H.02) to reduce greenhouse gas emissions.

Mandated Federal Metropolitan Transportation Plans

The Transportation Policy Plan fulfills all requirements in federal law (23 USC §134 and 49 USC §5303) for a Metropolitan Planning Organization for a region in air quality maintenance status to prepare and update a metropolitan transportation plan at least every four years. The plan also conforms to all air quality-related requirements for metropolitan transportation plan content and development in the Clean Air Act (42 USC §85).

In addition, the 2010 Census identified urbanized (developed) areas of Wright and Sherburne counties (primarily along the I-94 and U.S. Highway 10 corridors) as part of the Minneapolis - St. Paul urbanized (developed) planning area. Federal transportation law therefore required that those areas be included in this plan, though these areas are not otherwise a part of the Metropolitan Council's jurisdiction, which includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington counties.