“A” Minor Arterial System Evaluation Study

Final Report

Prepared For

The Metropolitan Council and Transportation Advisory Board

Draft for Discussion -- September 11, 2012

METROPOLITAN COUNCIL

Study and Report Overview

The purpose of the "A" Minor Arterial System Evaluation Study was to evaluate if the Twin Cities Metropolitan Area's "A" Minor Arterial system has and continues to successfully supplement the Principal Arterial system. In doing so, the study considered if the original purpose of the "A" Minor Arterial system aligns with regional policy in 2012. It also examined the system's funding – federal, state, and local – to identify the role of federal funding, including those funds awarded through the Regional Solicitation Process. The study has sought to identify the changes needed to make the "A" Minor Arterial system, its purpose, and regional policies more consistent. The recommended changes are identified and discussed in this report.

Due to the delayed passage of Moving Ahead for Progress in the 21st Century Act (MAP-21), the study did not have time to identify and analyze the implications of the new federal transportation funding bill. The federal transportation funding authorization bill passed in mid-2012. While the "A" Minor Arterial System Evaluation Study was intended to consider the impact of the federal reauthorization on the region's Minor Arterial system, the timing of this study and passage of the two-year bill did not allow for this kind of review. As such, the results of this study will help inform future assessments of the implications of MAP-21 on the regional transportation system.

The study was guided by a Project Management Team (PMT) and a Technical Steering Committee (TSC) composed of staff representatives from MnDOT, Transportation Advisory Board (TAB), the TAB's Technical Advisory Committee (TAC), Metropolitan Council, the region's seven counties, and five of the ten cities on the TAC. The PMT and TSC helped guide the study process and approach and helped develop the study's conclusions and recommendations. A consulting team consisting of SRF Consulting Group, Inc. and Cambridge Systematics performed much of the study. The study benefitted greatly from the time and thoughts shared by the PMT, TSC, and consultants.

Project Management Team

- Tim Mayasich, TAB's Technical Advisory Committee (TAC)
- Kevin Roggenbuck, TAB Staff (Metropolitan Council)
- Greg Coughlin, MnDOT Metro District State Aid
- Paul Czech, MnDOT Metro District
- Amy Vennewitz, Metropolitan Council Carl Ohrn, Metropolitan Council
- Mary Karlsson, Metropolitan Council

Technical Steering Committee

- Chuck Ahl, Maplewood
- Bob Byers, Hennepin County
- Paul Czech, MnDOT
- Lisa Freese, Scott County
- Kate Garwood, Anoka County
- Jenifer Hager (Steve Hay), Minneapolis
- Kim Lindquist, Rosemount
- Eriks Ludins, St. Paul
- Joe Lux, Ramsey County
- Tim Mayasich (Chair), TAC
- Bob Moberg, (formerly) Plymouth
- Ann Pung-Terwedo, Washington County
- Brian Sorenson, Dakota County
- Bill Weckman, Carver County

Consultants: SRF Consulting Group's Dave Montebello, Marie Cote, and Steve Peterson, and Cambridge Systematics' Bruce Spear.

This report is the fourth and final document prepared for the "A" Minor Arterial System Evaluation Study. It contains the study conclusions and recommendations, which are based on results summarized in three Technical Memoranda documenting the "A" Minor Arterial's System History, System Assessment, and Funding Assessment. Copies of the Technical Memoranda are available from the Metropolitan Council.

"A" Minor Arterials – 1990 to 2012

In 1989, the Twin Cities Metropolitan Area concluded in its Transportation Policy Plan (TPP) that the funding needed to expand the Principal Arterial system would likely not be available. The TPP stated that future increases in travel demand should be met by MnDOT using demand management on the Principal Arterial system and by MnDOT, counties, and cities working together to provide an adequate regional Minor Arterial roadway system. To support the development and enhancement of the Minor Arterial system, the 1989 TPP Work Program recommended a study of the Minor Arterial system be carried out by TAB. The TAB appointed a task force to complete the study and the Minor Arterial Study was finalized in December 1990. The study report summarized the issues facing the Minor Arterial system, stated the purpose of the Minor Arterial system is to supplement the Principal Arterial system, introduced the concept of "A" Minor Arterials as the region's most important Minor Arterials, and recommended a process for allocating federal funds to the "A" Minor Arterials.

With the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, the region chose to allocate a portion of its federal urban guarantee funds to the "A" Minor Arterial system. Federal funding for the region's "A" Minor Arterials was maintained by the two subsequent federal transportation bills, the 1998 Transportation Equity Act for the 21st Century (TEA-21) and 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU). These funding decisions resulted in a Regional Solicitation Process that has competitively awarded federal funding to transportation improvement projects generally every two years since its inception more than 20 years ago. Between 1993 and 2009, the Regional Solicitation Process administered by the TAB to the Metropolitan Council in cooperation with its local partners has resulted in the award of federal funding to over 100 "A" Minor Arterial projects with an estimated construction value of over $500 million (not adjusted for inflation). More information on the history of "A" Minor Arterials and the Regional Solicitation is available in Technical Memorandum 1.

Study Conclusions and Recommendations

The study's conclusions and recommendations are presented in three categories: "A" Minor Arterial system and policy, Regional Solicitation, and other conclusions and recommendations. These conclusions and recommendations show that the region's "A" Minor Arterial system has successfully supplemented the Principal Arterial system. In addition, its original purpose continues to align with current regional policy, and federal funding, including monies awarded through the Regional Solicitation, plays a small, but important part in developing and enhancing the system. The conclusions and recommendations identify the changes needed to allow the "A" Minor Arterial system to continue to fulfill this important role in the region.

"A" Minor Arterial System and Policy Conclusions and Recommendations

1. **The "A" Minor Arterial system has and continues to successfully supplement the Principal Arterial system. The Metropolitan Council and TAB should continue to recognize the importance of the "A" Minor Arterial system and its strong connection to regional goals and policy and clarify its purpose in policy.** The "A" Minor Arterials play a critical role in the transportation network within the Twin Cities Metropolitan Area by supplementing the Principal Arterial network and providing mobility options in parts of the region that are not well-served by the Principal Arterial network. It provides access to many of the region's job centers and connects rural centers to each other and to the Principal Arterial system. As shown in Table 1, the "A" Minor Arterial system is well used: it accounts for 13 percent of highway lane-miles in the seven-county Twin Cities Metropolitan Area, yet it carries 26 percent of the 2010 daily vehicle-miles travelled (VMT). Together with the Principal Arterial system, Principal Arterials and "A" Minor Arterials make up less than 25 percent of the region's lane-miles and carry a large majority -- nearly 75 percent -- of the miles our region's vehicles traveled in 2010.

Table 1: Share of System Lane-Miles and VMT

Functional Classification	% of 2011 Lane-Miles	% of 2010 Daily VMT
Principal Arterial	9	48
"A" Minor Arterial	13	26
"B" Minor Arterial	3	5
Major Collector	8	10
Minor Collector	2	1
Local Road	~~64~~65	~~11~~10
TOTAL	**100**	**100**

Study results also show the "A" Minor Arterial system carries the most bus-miles travelled (BMT) – 33 percent of the total BMT – highlighting the important role the "A" Minor Arterial system plays in supporting bus transit (see Figure 1~~Figure 1~~). Collectively, Principal Arterials and "A" Minor Arterials carry 53 percent of the region's BMT. ~~And in addition to supporting general traffic and buses, the study team confirmed the "A" Minor Arterial system also actively supports freight, rail transit, bicycle, and pedestrian systems.~~

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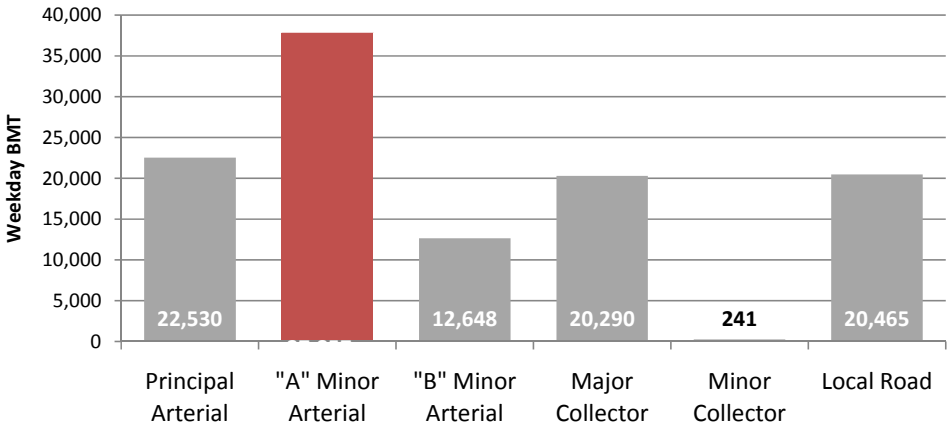
Figure 1: Average Weekday BMT by Functional Classification (2010)



These varied roles of the "A" Minor Arterial system aligns with regional goals and policies. The system actively supports Regional Development Framework policies 1 (Accommodate growth in a flexible, connected and efficient manner), 2 (Plan and invest in multi-modal transportation choices…), and 3 (Encourage improved access to jobs and opportunities). The role of the "A" Minor Arterial system in implementing these development policies is described in Transportation Policy Plan (2010) policies 9 (Highway Planning), 11 (Highway System Management and Improvements), and 18 (Providing Pedestrian and Bicycle Travel Systems). The system also serves as the foundation for many of the TPP's Transit policies since, as previously mentioned, much of the region's transit system – from rail stations to bus to ridesharing – makes use of the "A" Minor Arterial system for accessing or providing the services.

While the study finds the "A" Minor Arterial system is fulfilling its intended role and the role remains consistent with regional policy, it also found opportunities to provide clarity about the system. For example, future updates of the Transportation Policy Plan should more fully explain the purpose of the "A" Minor Arterial system and more clearly articulate the difference between "A" and "B" Minor Arterials. This guidance will help to provide rationale for state and local agencies to make decisions related to the "A" Minor Arterial system that are consistent with its stated purpose.

2. **The four types of "A" Minor Arterials have allowed the region to build the system sensitive to established policy and physical context. The Metropolitan Council and TAB should maintain four types of "A" Minor Arterials and update their definitions in policy.** The four types of "A" Minor Arterials are defined in 2030 TPP (2010) Appendices A (Land Transportation Glossary) and D (Functional Classification Criteria and Characteristics and MnDOT Access Guidance). These definitions help to define the intended function of the

"A" Minor system as they support adjacent Principal Arterials within different physical contexts and stages of development throughout the region.

The study finds that each type of "A" Minor Arterial is generally aligned with its physical context and intended regional development planning area and that the network is well distributed throughout the seven-county Twin Cities Metropolitan Area (see Figure 2). For example, Connectors are primarily targeted for rural areas, but can extend into developed or developing areas. As shown in Figure 3, the actual location of Connectors fits this description. Phone interviews with agencies conducted as part of this study also found the characteristics and objectives of the four types of "A" Minor Arterials are well understood by regional partners and are reflected in their planning practices, operational strategies, and approach to capital improvements. And the four types of "A" Minor Arterials give policy and funding flexibility to the region. For example, Reliever routes, which run parallel to key Principal Arterials and supplement them during rush hours, may be treated differently from Connector routes which act more as main highways that connect rural centers to each other and to the Principal Arterial network.

The study found areas where the definitions of the four types of "A" Minor Arterials are not perfect, but the study also finds the four types generally represent the historic development patterns and physical contexts for the roads that should be acknowledged. For example, the physical context and characteristics of an "A" Minor Arterial in Minneapolis or Saint Paul will differ significantly from one in Bloomington, Eagan, or Woodbury and again from one in Ham Lake, Norwood Young America, or Credit River Township.

The study finds the definitions of the four types of "A" Minor Arterials should be reviewed and updated, as necessary, in the next update of the Transportation Policy Plan. For example, the Augmenter and Expander definitions should be reviewed to address changes since the definitions were developed in the early 1990s. The definitions in the 2030 TPP (2010) reference the I-494/694 beltway as the geographic boundary differentiating Augmenters and Expanders. The TPP defines Expanders as located in developing areas outside the I-494/I-694 Beltway. This was the case in 1990, but since then development has continued to move beyond the beltway and in 2011, 24 percent of Expanders were located in developed areas outside the Beltway. The Metropolitan Council and TAB should clarify whether the Expander definition should include developed areas outside of the Beltway or the Augmenter definition should include areas outside the beltway.

Figure 2: Regional Development Planning Areas

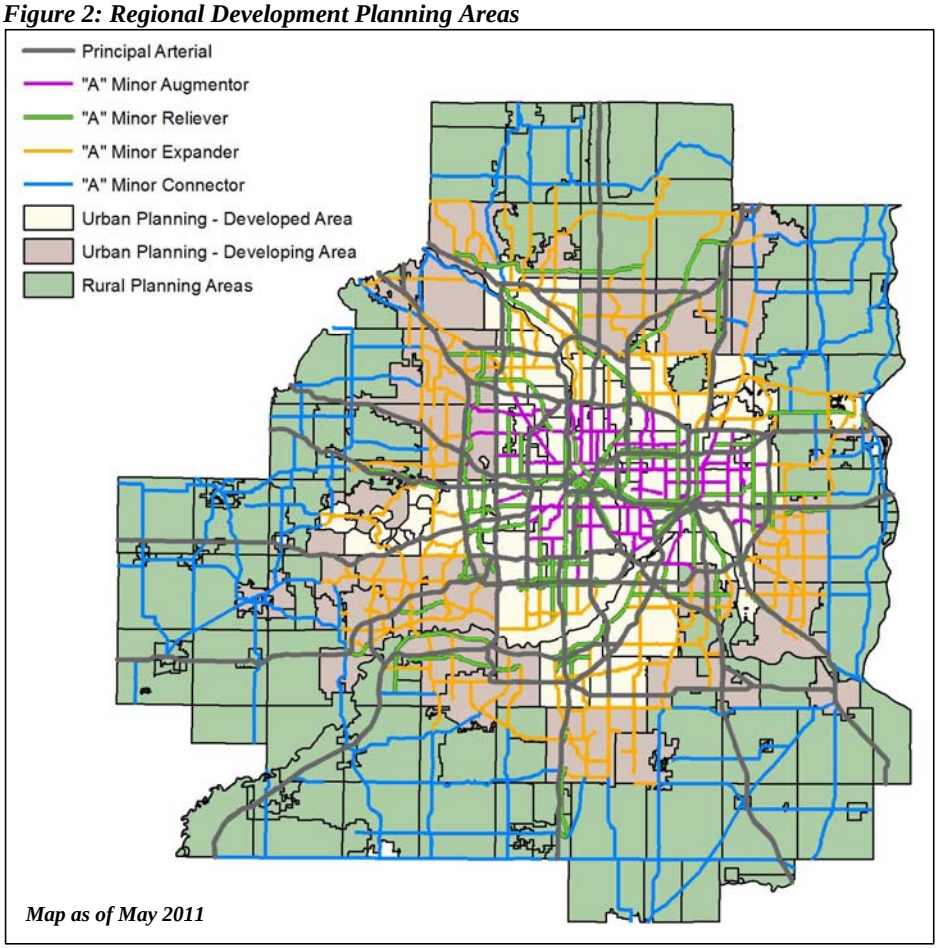
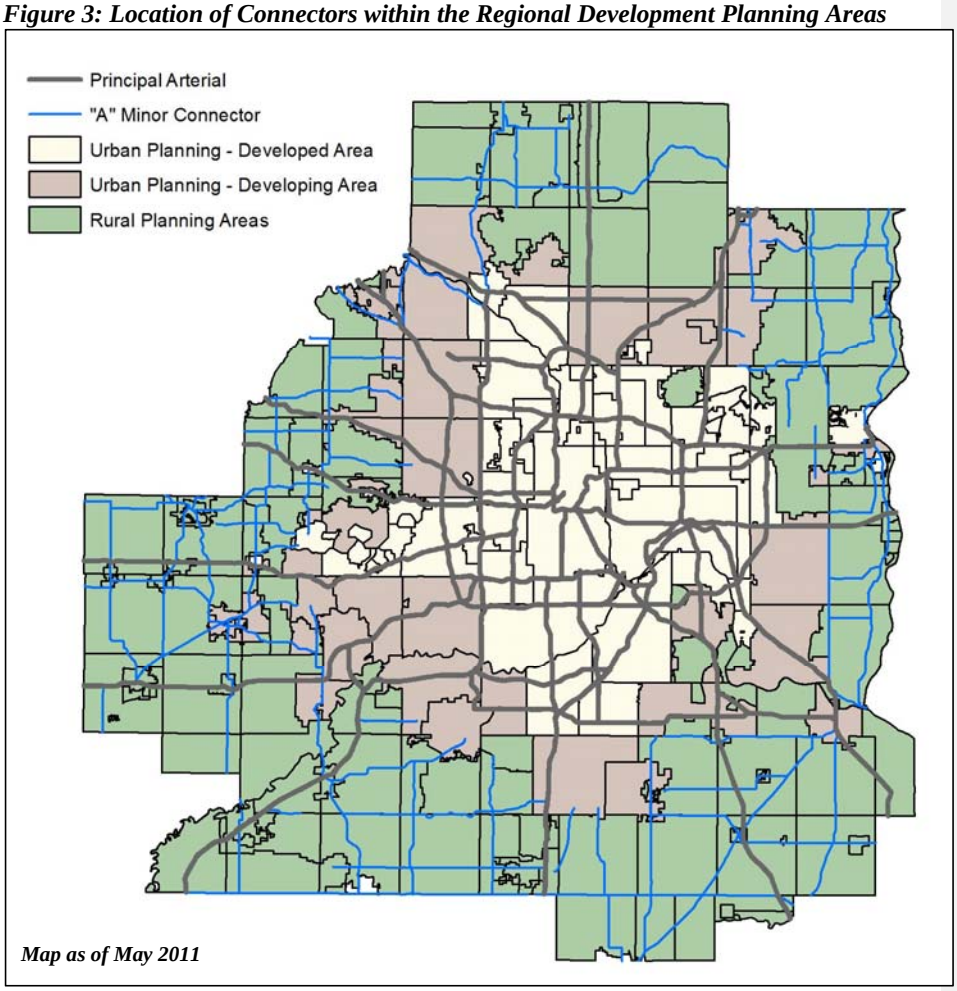


Figure 3: Location of Connectors within the Regional Development Planning Areas



3. **Consistent with federal policy, regional policy, and agency priority, Principal Arterials are MnDOT's investment priority and as a result it is investing significantly less in "A" Minor Arterials when compared to the seven counties. At the same time, the Transportation Policy Plan directs several "A" Minor implementation strategies toward MnDOT only. The Metropolitan Council and TAB should complete further analysis of this investment imbalance and develop as part of the next update of the Transportation Policy Plan policies and strategies for ~~maintaining~~building, ~~operating~~managing, and improving all of the "A" Minor Arterial system.** The study found, as shown in Figure 4, counties spend twice as much as MnDOT on "A" Minor Arterials per lane-mile. The study also normalized capital investment based on VMT. Per VMT, counties also spend twice as much as MnDOT on "A" Minor Arterials. In addition, counties are investing this way even though detailed strategies do not directly speak to them in the Transportation Policy Plan.

   The data show~~s~~ that transportation agencies are investing capital resources consistent with regional policy and agency priorities. But it means some roadways may be falling through the cracks. For example, the Principal Arterial system is MnDOT's primary focus. The system is critical as it moves 48 percent of the vehicle-miles travelled in the region. But as shown in Figure 5, MnDOT also owns 20 percent of the region's "A" Minor Arterials and these routes, when competing with the needs on the Principal Arterial system, do not justify the same investment priority within MnDOT.

   While each agency is investing resources consistent with regional policy, agency priorities, and federal policy as confirmed in MAP-21, the different levels of capital funding being put toward "A" Minor Arterials under MnDOT's jurisdiction may over time result in condition and capacity problems. The Metropolitan Council and TAB need to acknowledge this difference, monitor work related to it including MAP-21 legislation interpretation, the Minnesota Jurisdictional Realignment Project, and the Regional Solicitation Evaluation Study, and as part of the next update of the Transportation Policy Plan develop policies and strategies for building, ~~operating~~managing, and improving all of the "A" Minor Arterial system.

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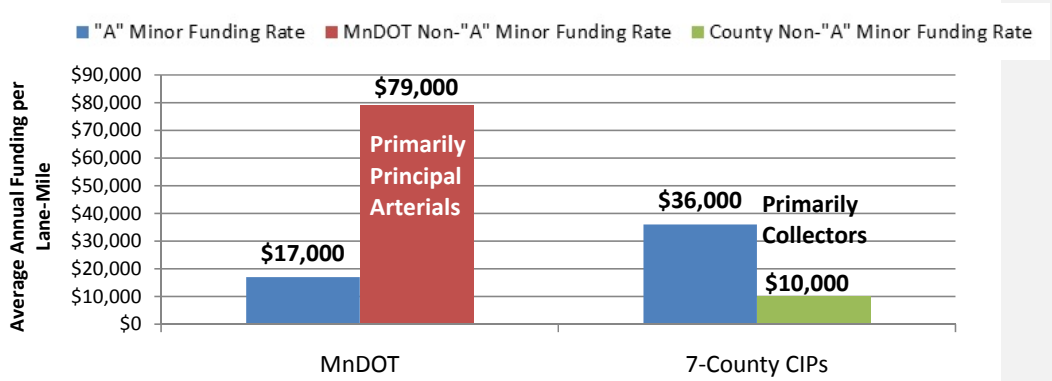
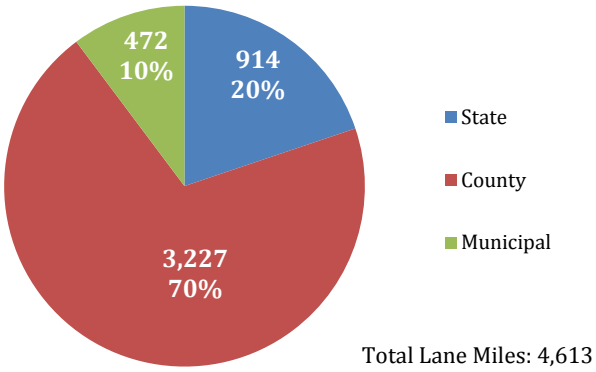
Figure 4: Average Annual Capital Funding per Lane-Mile



Note: Dollars not adjusted for inflation and include capital dollars only.

Figure 5: "A" Minor Arterial Ownership (Lane-Miles)



Total Lane Miles: 4,613

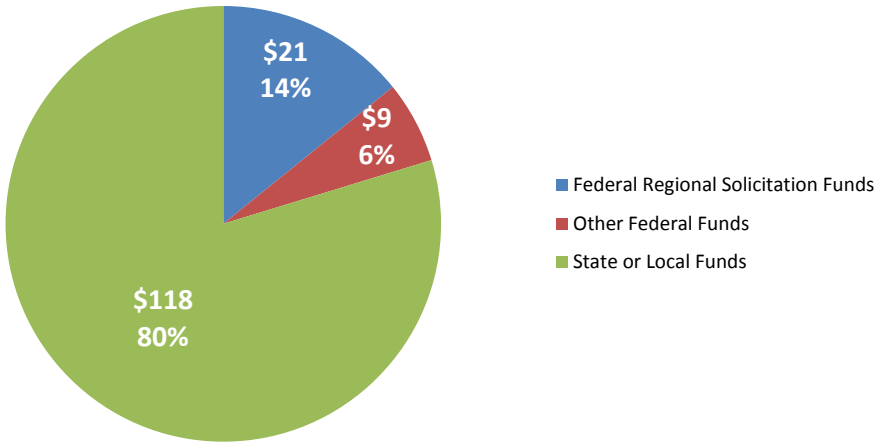
"A" Minor Arterial Regional Solicitation Conclusions and Recommendations

4. **Federal funds are a small but significant part of the capital funding used to improve the "A" Minor Arterial system. The Metropolitan Council and TAB should continue directing federal funds through the Regional Solicitation process to the "A" Minor Arterial system**. Approximately $21 million per year or 14 percent of the estimated $148 million in capital funding spent annually on "A" Minor Arterial are federal dollars that come

through the TAB's Regional Solicitation Process (see Figure 6~~Figure 6~~).[1] Based on the best data available, it is estimated that another six percent of the funds come from other federal sources (e.g., Federal discretionary, Urban Partnership Agreement) outside of the Regional Solicitation Process; based on an initial review of MAP-21, there will likely be a reduction in the amount of other federal funds allocated to the system in the future. Agencies use federal funds to leverage other state and local dollars to address larger safety and mobility issues and enhance modal elements. Local agencies stated in interviews conducted as part of this study that federal funding is one of the ways that they tackle more capital intensive projects and that many of these projects would not be pursued if federal funds were not available.

While federal funding provides an important supplement, Figure 6 also shows that 80 percent of the capital funds used to enhance and rehabilitate the "A" Minor Arterial system are estimated to come from state and local sources. And in addition to capital investments, state and local agencies also make considerable investments in engineering and planning activities related to improving the "A" Minor Arterial system. Many of these investments take place several years prior to construction and include corridor studies, grant writing, public participation, and environmental documentation.

Figure 6: 2000-2010 Average Annual "A" Minor Arterial Capital Funding (millions)



Total average annual capital funding: $148M/year

Source: MnDOT TIS database, City and County CIPs, Regional Solicitation database; dollars not adjusted for inflation and include capital dollars only.

[1] It should be noted that Regional Solicitation funds can only be used for implementation costs such as excavation, construction, and materials. The funds cannot be used for planning, right-of-way, or engineering costs.

The "A" Minor Arterial investments, including those supported by Regional Solicitation funding, have contributed to performance improvements including carrying significant travel increases while simultaneously seeing fewer crashes, and most importantly fewer crash-related fatalities and serious injuries. From 1999 to 2010, travel on the "A" Minor Arterial system increased 11.8 million vehicle miles per day (see Figure 7). During a similar time period (1995 to 2010), the "A" Minor Arterial system saw a 30 percent reduction in the total number of crashes compared to a reduction of 21 percent for all roadways in the Metropolitan Area. The reduction in fatal and serious injury crashes has been even more dramatic with a 69 percent decrease on "A" Minor Arterials and 56 percent decrease for Principal Arterials (see Figure 8). There was a 60 percent reduction for all roadways in the Metropolitan Area.

Figure 7: Average Daily VMT by Functional Classification

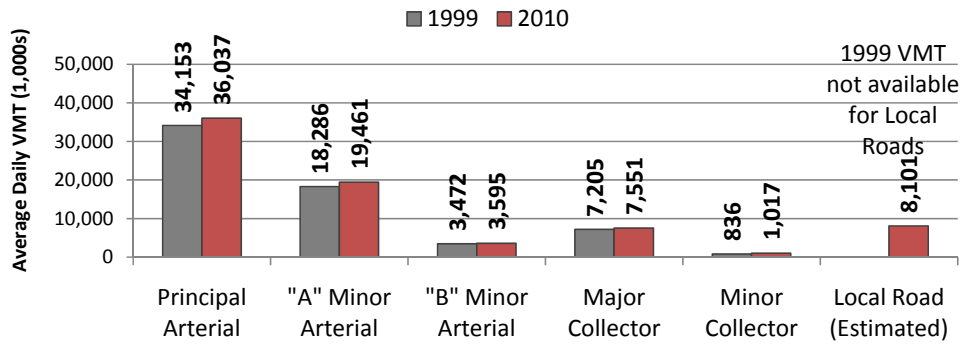
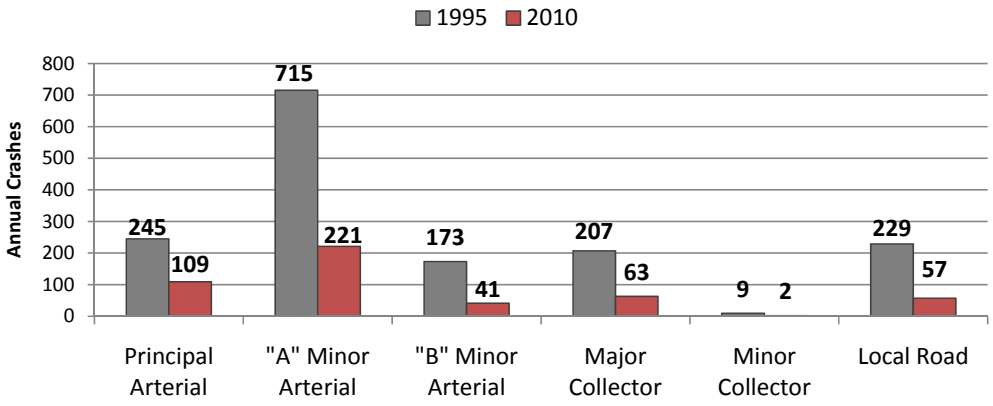


Figure 8: Annual Fatal (K) or Serious Injury (A) Crashes



Source: MnDOT crash records for 1995 and 2010

Finally, based on a national peer review of functional classification systems, the study finds that very few transportation planning agencies employ functional classification as a strategy for funding projects. However, for agencies that have employed a similar approach, it has proven to be an important element in agencies being able to make key improvements to the Minor Arterial system. As stated previously, this funding has made a significant contribution to the overall transportation system in terms of supplementing the Principal Arterial system and supplementing other funds being used to improve the mobility and safety on the "A" Minor Arterial system.

5. **The Regional Solicitation's use of the four types of "A" Minor Arterials has done a good job of allocating federal funding in proportion to use. The TAB should continue to use the four types of "A" Minor Arterials to help target federal funding to different parts of the system throughout the region.** Table 2 summarizes the share of "A" Minor Arterial centerline miles, lane-miles, and VMT (system usage) by the four types of "A" Minor Arterials and compares them to the allocation of Regional Solicitation funding for all solicitations from 1993 to 2009. The data show~~s~~ that the federal funding has been allocated to system elements in proportion to their use in 2010.

Table 2: "A" Minor Arterial Subcategory Comparison

"A" Minor Arterials	Centerline Miles %	Lane-Miles %	VMT % (2010)	Regional Solicitation Funding %	Regional Solicitation Funding ($millions)
Augmentor	9	13	16	16	$59
Reliever	22	26	27	24	$89
Expander	34	36	40	42	$156
Connector	35	25	17	18	$65
TOTAL	**100**	**100**	**100**	**100**	**$369**

While the distribution of funds between the four types of "A" Minor Arterials will not perfectly match VMT distribution in every solicitation year, over time, it is important to maintain this general relationship between federal funds allocated and use.

6. **MAP-21, regional policy emphasizing lower cost/high benefit projects, rising construction costs, fewer staff resources, changing technology, and other factors contribute to a need to review the Regional Solicitation. As part of the upcoming Regional Solicitation Evaluation, the TAB and TAC should:**

   A. Continue to evaluate MAP-21 to identify the implications of the legislation on federal funding for the "A" Minor Arterial system and on the Regional Solicitation Process. As previously stated, the study finds that use of the four types of "A" Minor Arterials in the Regional Solicitation Process has done a good job of allocating federal funding to system elements throughout the region in proportion to their use (see Recommendation 5). But changes introduced by MAP-21 may reduce funds available to the "A" Minor Arterial system. The TAC and TAB should consider how to continue providing federal funding to the four types of "A" Minor Arterials consistent with MAP-21.

   B. Examine the effect of increasing the number of points awarded to projects for cost effectiveness. The 2030 Transportation Policy Plan (2010) refocused highway investment priorities on lower cost/high benefit projects. In addition, cost-effectiveness and putting dollars toward performance issues is an underlying theme in MAP-21. The TAB and TAC should consider giving project cost and cost effectiveness greater emphasis in the Regional Solicitation Process to better align with regional priorities and recognize national goals. It should be noted that projects that are cost effective may still have still have a high project cost if the benefit that the project provides is high (i.e., there is high value for the money).

   C. Balance the desire to increase the maximum grant amount with the desire to award funding to a large number of different projects. While the Regional Solicitation's maximum grant amount encourages the delivery of lower cost/high benefit projects, the solutions to some transportation issues cost more than what can be currently funded using Regional Solicitation grants. The Regional Solicitation has tried to strike a balance

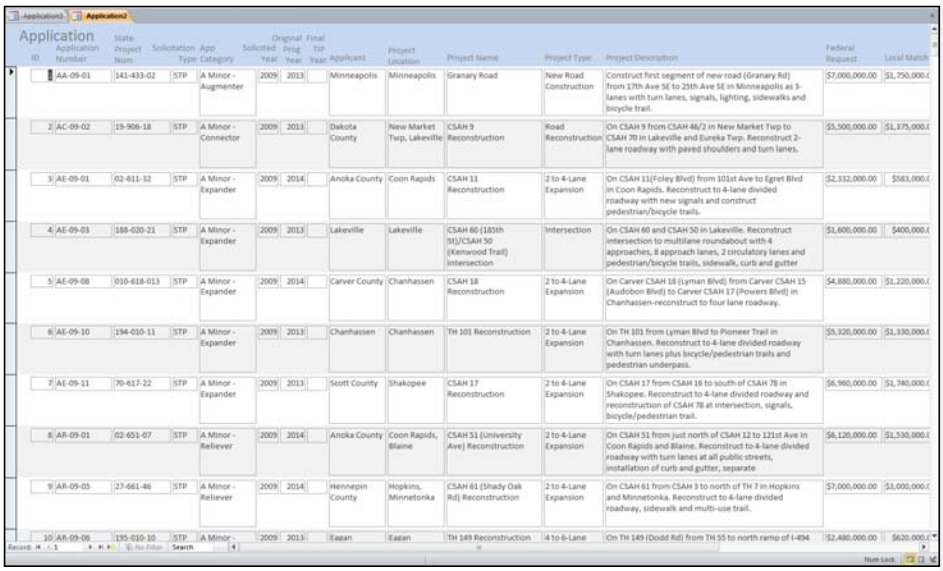
between providing funds to address issues and creating opportunity to distribute the federal funding to projects around the region. During interviews completed for the study, regional partners reported the maximum grant amount has prevented them from addressing more complex problems. The regional partners also reported that rising constructions costs have eroded their ability to address larger projects without breaking them into smaller chunks, which is less efficient, or finding other sources of funding to couple with Regional Solicitation dollars, which they report is extremely difficult to align properly. The size of Regional Solicitation grants should continue to be balanced with the need to distribute funds throughout the region.

D. Seek ways to limit the level of effort required to prepare Regional Solicitation applications. During interviews completed for the study, regional partners reported they felt the Regional Solicitation Process is fair and balanced, but shared concerns about the level of effort needed to prepare quality applications. As the TAC and TAB prepare for future Regional Solicitations, the number of questions asked and their complexity should be minimized to only those necessary to continue ensuring a fair and balanced solicitation for quality projects that help implement the Transportation Policy Plan and local comprehensive plans.

E. Provide for the online submittal of Regional Solicitation applications, continue building the database of Regional Solicitation applications started by this study, and consider, as part of the Regional Solicitation Evaluation, implementing technology that would automatically populate the database when applicants submit future applications online. This study created a database that includes all of the "A" Minor Arterial projects selected for funding through the Regional Solicitation Process from 1993 to 2009 (see Figure 9).

   The database was constructed in a way that supports future development to allow some data fields to automatically populate after a local agency electronically submits their Regional Solicitation application. The database could also be expanded to include all types of applications submitted to the Regional Solicitation such as Non-freeway Principal Arterial and Congestion Management and Air Quality (CMAQ) applications. In addition, local agencies could help build the region's body of knowledge about Regional Solicitation-funded projects by submitting simple close out information online when construction of the federally funded project is complete.

Figure 9: Database of Successful Regional Solicitation Projects



Application ID	Application Number	State Project Num	Solicitation Type	App Category	Solicited Year	Original Prog Year	Final TIP Year	Applicant	Project Location	Project Name	Project Type	Project Description	Federal Request	Local Match
1	AA-09-01	141-433-02	STP	A Minor - Augmenter	2009	2013		Minneapolis	Minneapolis	Granary Road	New Road Construction	Construct first segment of new road (Granary Rd) from 17th Ave SE to 25th Ave SE in Minneapolis as 3-lanes with turn lanes, signals, lighting, sidewalks and bicycle trail.	$7,000,000.00	$1,750,000.(
2	AC-09-02	19-906-18	STP	A Minor - Connector	2009	2013		Dakota County	New Market Twp, Lakeville	CSAH 9 Reconstruction	Road Reconstruction	On CSAH 9 from CSAH 46/2 in New Market Twp to CSAH 70 in Lakeville and Eureka Twp. Reconstruct 2-lane roadway with paved shoulders and turn lanes.	$5,500,000.00	$1,375,000.(
3	AE-09-01	02-611-32	STP	A Minor - Expander	2009	2014		Anoka County	Coon Rapids	CSAH 11 Reconstruction	2 to 4-Lane Expansion	On CSAH 11(Foley Blvd) from 101st Ave to Egret Blvd in Coon Rapids. Reconstruct to 4-lane divided roadway with new signals and construct pedestrian/bicycle trails.	$2,332,000.00	$583,000.(
4	AE-09-03	188-020-21	STP	A Minor - Expander	2009	2013		Lakeville	Lakeville	CSAH 60 (185th St)/CSAH 50 (Kenwood Trail) Intersection	Intersection	On CSAH 60 and CSAH 50 in Lakeville. Reconstruct intersection to multilane roundabout with 4 approaches, 8 approach lanes, 2 circulatory lanes and pedestrian/bicycle trails, sidewalk, curb and gutter	$1,600,000.00	$400,000.(
5	AE-09-08	010-618-013	STP	A Minor - Expander	2009	2014		Carver County	Chanhassen	CSAH 18 Reconstruction	2 to 4-Lane Expansion	On Carver CSAH 18 (Lyman Blvd) from Carver CSAH 15 (Audobon Blvd) to Carver CSAH 17 (Powers Blvd) in Chanhassen-reconstruct to four lane roadway.	$4,880,000.00	$1,220,000.(
6	AE-09-10	194-010-11	STP	A Minor - Expander	2009	2013		Chanhassen	Chanhassen	TH 101 Reconstruction	2 to 4-Lane Expansion	On TH 101 from Lyman Blvd to Pioneer Trail in Chanhassen. Reconstruct to 4-lane divided roadway with turn lanes plus bicycle/pedestrian trails and pedestrian underpass.	$5,320,000.00	$1,330,000.(
7	AE-09-11	70-617-22	STP	A Minor - Expander	2009	2013		Scott County	Shakopee	CSAH 17 Reconstruction	2 to 4-Lane Expansion	On CSAH 17 from CSAH 16 to south of CSAH 78 in Shakopee. Reconstruct to 4-lane divided roadway and reconstruction of CSAH 78 at intersection, signals, bicycle/pedestrian trail.	$6,960,000.00	$1,740,000.(
8	AR-09-01	02-631-07	STP	A Minor - Reliever	2009	2014		Anoka County	Coon Rapids, Blaine	CSAH 51 (University Ave) Reconstruction	2 to 4-Lane Expansion	On CSAH 51 from just north of CSAH 12 to 121st Ave in Coon Rapids and Blaine. Reconstruct to 4-lane divided roadway with turn lanes at all public streets, installation of curb and gutter, separate	$6,120,000.00	$1,530,000.(
9	AR-09-05	27-661-46	STP	A Minor - Reliever	2009	2014		Hennepin County	Hopkins, Minnetonka	CSAH 61 (Shady Oak Rd) Reconstruction	2 to 4-Lane Expansion	On CSAH 61 from CSAH 3 to north of TH 7 in Hopkins and Minnetonka. Reconstruct to 4-lane divided roadway, sidewalk and multi-use trail.	$7,000,000.00	$3,000,000.(
10	AR-09-06	155-010-10	STP	A Minor -	2009	2013		Eagan	Eagan	TH 149 Reconstruction	4 to 6-Lane	On TH 149 (Dodd Rd) from TH 55 to north ramp of I-494	$2,480,000.00	$620,000.(

7. **While a study survey of completed "A" Minor Arterial projects showed a high level of consistency between proposals partially funded by the Regional Solicitation and in-place construction, the survey also identified a small number of projects with~~, but~~ significant ~~percentage of~~ project elements that did not match their Regional Solicitation application and did not appear to go through the TAB's formal scope change process. The study survey ~~re was~~ also revealed confusion about roles and responsibilities for identifying and initiating scope changes. The TAC and TAB should:**

   A. ~~w~~Work closely with MnDOT Metro State Aid and local Federal Highway Administration (FHWA) staff to define "scope changes" and communicate the need for them to project sponsors. The TAB should adopt the definition and direct questions regarding scope changes and the need for them to the TAB Coordinator, Metropolitan Council staff, and/or the MnDOT Metro State Aid Office. ~~The TAB should include the scope change definition and contact information for the TAB Coordinator and MnDOT Metro State Aid Office in the Regional Solicitation materials and communicate them to project sponsors.~~

      A visual inventory was completed as part of this study for 20 "A" Minor Arterial projects partially funded through the Regional Solicitation. The 20 projects inventoried as part of this study include hundreds of project elements. The study finds that there is a high level of consistency for a majority of project elements between

proposals partially funded through the Regional Solicitation and in-place construction. This high level of consistency is notable given that most projects are still conceptual when applications to fund them are submitted through the Regional Solicitation. However, there was a~~s~~ small percentage of project elements that did not match their Regional Solicitation application and did not go through the formal scope change process.

~~The survey of completed "A" Minor Arterial projects partially funded by the Regional Solicitation found there was confusion about roles and responsibilities for identifying and initiating scope changes.~~

B. Review current procedures, roles, and reponsibilities for monitoring the project development process with respect to scope changes and ~~make~~ develop policy recommendations ~~to the TAB~~. The TAB should adopt the policy recommendations and direct questions regarding the scope change process to the TAB Coordinator, Metropolitan Council staff, and/or the MnDOT Metro State Aid Office. Examples of policy recommendations include encouraging as few scope changes as practical and encouraging project sponsors to identify any scope changes as early in the project development schedule as possible.

~~B.~~ The policy recommendations should r~~R~~ecognize and balance the desire to have a fair and equitable Regional Solicitation process with the constraints put on agencies by federal rules. For example, the federal environmental review process was recently changed to require project sponsors identify full project funding prior to preparing environmental documentation. Given these federal requirements, limited detail may be known about many projects when funding is sought and it will likely become more common for project elements to change as more detailed design and environmental work is completed. The scope change process should recognize this tension and balance the need for oversight with the needs for project development efficiency and effectiveness.~~The TAB should also provide information on the formal scope change process near the beginning of the Regional Solicitation guidelines in conjunction with the scope change definition and staff contact information. As the TAC/TAB works to better define the scope change process, the outcome should:~~

~~C.~~ ~~The TAB should i~~Include the scope change definition, formal scope change process, and contact information for the TAB Coordinator and MnDOT Metro State Aid Office in the Regional Solicitation materials and communicate them to project sponsors.~~Ensure the responsibility for identifying and initiating scope changes is clear to all project sponsors~~, including sponsors of MnDOT projects on the state system which do not go through the MnDOT Metro State Aid review process.

~~D. Encourage no scope changes and encourage identification of any scope changes as early in the project development process as possible.~~

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~~E.~~C. ~~Recognize and balance the desire to have a fair and equitable Regional Solicitation process with the constraints put on agencies by federal rules. For example, the federal environmental review process was recently changed to require project sponsors identify full project funding prior to preparing environmental documentation. Given these federal requirements, limited detail may be known about many projects when funding is sought and it will likely become more common for project elements to change as more detailed design and environmental work is completed. The scope change process should recognize this tension and balance the need for oversight with the needs for project development efficiency and effectiveness.~~

~~7.~~8. **The survey of completed "A" Minor Arterial projects showed the Regional Solicitation is targeting federal funding toward quality improvements to the system. The TAB should consider hosting a showcase of completed projects partially funded through the Regional Solicitation.** The showcase should become an annual or biennial event to celebrate the successful implementation of federally funded projects and to create opportunities to share project benefits and implementation challenges with elected and appointed officials.

Other Conclusions and Recommendations

~~8.~~9. **MAP-21, ThriveMSP2040, the 2040 Transportation Policy Plan and other state and regional studies may significantly affect the "A" Minor Arterial system. The Metropolitan Council and TAB should forward information from this study to agencies that are or will be completing studies that affect the "A" Minor Arterial system and should monitor the studies to respond to potential effects.** Some of the other work that may affect the "A" Minor Arterial system include regional efforts to evaluate MAP-21 and future transportation bills, update of the metropolitan development guide now called ThriveMSP2040, the next update of the TPP (2040 TPP), the Regional Solicitation Evaluation, MnDOT's Minnesota Jurisdictional Realignment Project, and MnDOT's Highway Investment Plan. Specific examples of considerations for the "A" Minor Arterial system include the following:

A. Regional efforts to identify the implications of MAP-21 should use the findings, conclusions, and recommendations from the "A" Minor Arterial System Evaluation Study to better understand the implications of MAP-21 on the "A" Minor Arterial system. While MAP-21 appears to focus federal investment priorities on the Principal Arterial system, it may also reduce the region's ability to fund the "A" Minor Arterial system. As these kinds of implications are better understood the region should consider the implications of MAP-21 on the "A" Minor Arterial system and its funding.

B. As part of MAP-21 interpretation efforts and the Regional Solicitation Evaluation, the TAC and TAB should, in coordination with MnDOT State Aid, examine the feasibility of pooling federal dollars to increase efficiencies on projects. For example,

some regions have allowed and MAP-21 may be encouraging road authorities to replace local or state dollars above the required local match with federal dollars from smaller projects so the smaller projects would not use federal funds nor be subject to federal requirements. This approach would improve project development efficiency and reduce the administrative burden on agencies for the development of smaller projects since it is more costly and complex to develop a project through the federal process than through the state process. An ad hoc committee of the TAC is studying ways to improve local project delivery and this technique has been discussed as a way to move projects without environmental impacts or right-of-way needs through a simpler process to minimize unnecessary administrative work and delays.

This change may require some legislation and/or other policy changes. This recommendation was identified through the nine phone interviews completed as part of this study with planning and engineering staff from the seven metropolitan area counties, Bloomington, and Minneapolis. This kind of federal fund pooling is being done in Greater Minnesota Area Transportation Partnerships (ATPs).

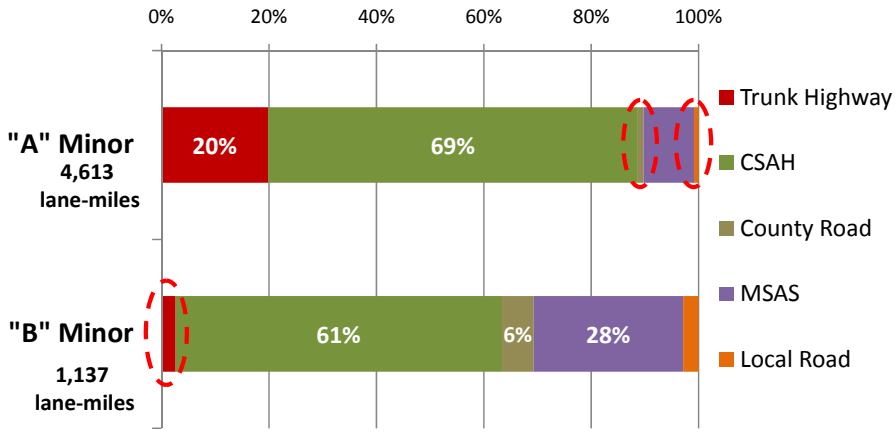
C. As part of the next update of the Transportation Policy Plan, the Metropolitan Council and MnDOT should develop a more defined regional process for identifying future Principal Arterials. The Metropolitan Council, MnDOT and TAB should to identify how existing "A" Minor Arterials identified as future Principal Arterials should be treated with respect to funding and other policies. Through the interviews conducted as part of this study, county partners noted the region lacks a formal process for identifying future Principal Arterials, and the absence of a process means that existing "A" Minor Arterial may not be improved the way they should to meet long-term travel needs. At the same time, study partners acknowledged MnDOT is challenged to maintain and operate the routes they already own, let alone taking on more facilities. The process for identifying future Principal Arterials needs more discussion and clarity for all partners. And the Metropolitan Council, MnDOT, and TAB should decide if existing "A" Minor Arterials designated as future Principal Arterials warrant special funding, operations, and management within the context of other, existing needs on the transportation system.

D. The Metropolitan Council, MnDOT, the seven metropolitan counties, and affected cities should, as part of MnDOT's Minnesota Jurisdictional Realignment Project and the next update of the Transportation Policy Plan, consider if there are opportunities for realignment by jurisdiction or eligibility for state aid funding within the region's highway and road system. The study raised a larger question of whether or not MnDOT should own "A" Minor Arterials when they are not able to invest in them at the same levels of counties. The study also found there is a small percentage of roadways on the Minor Arterial system that may present other opportunities for realignment either by jurisdictional transfer or eligibility for state aid funding (see Figure 9). While there may be exceptions, "A" Minor Arterials should generally be part of the state aid system and Trunk Highways should be classified as Principal or "A" Minor Arterials. Local agencies noted that some of the roadways identified are

currently being transferred to different jurisdictions or are applying to be part of the state aid system.

MnDOT, through its Minnesota Jurisdictional Realignment Project, should examine if MnDOT should continue to own "A" Minor Arterials, if the 29 lane-miles of "B" Minor Arterials on the Trunk Highway system present opportunities for realignment and, if so, identify policy needed to support the changes. In addition, as part of the next update of the Transportation Policy Plan, the Metropolitan Council should ask local agencies to review the 89 lane-miles of non-State Aid routes on the "A" Minor Arterial system and consider if they present opportunities for realignment. As shown in Figure 10, of the 1,137 "B" Minor Arterial lane-miles, three percent (29 lane-miles) are Trunk Highways and of the 4,613 "A" Minor Arterial lane-miles, one percent (50 lane-miles) are not part of the County Highway State Aid system and one percent (39 lane-miles) are not part of the Municipal State Aid Street system. The Metropolitan Council, MnDOT, the seven metropolitan counties, and affected cities should work together to evaluate if these exceptions are justified.

Figure 10: Composition of the "A" and "B" Minor Arterial System (Lane-Miles)



~~9.~~10. **The "A" Minor Arterial system actively supports economic activity and the transit, freight, bicycle, and pedestrian systems consistent with regional and local policies. Data is not readily available to demonstrate all of these relationships. The Metropolitan Council and TAB should assemble needed data on "A" Minor Arterial freight, bicycle, and pedestrian use and investments. Data should also be assembled for how "A" Minor Arterials support the local and regional economy.**

Regional policies identify the role of the minor arterial system in supporting the economy and the transit, freight, bicycle, and pedestrian systems. The 2030 Transportation Policy Plan says INSERT TEXT ABOUT "A" MINORS ROLES IN ECONOMIC DEVELOPMENT, FREIGHT, BICYCLE, AND PEDESTRIAN. The Regional Solicitation supports these regional policies by awarding points for land use, freight, and multi-modal elements of projects.

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Local transportation plans also address these issues. The role of transportation in supporting the economy is discussed in the county transportation plans and the transportation plans for Bloomington, Maple Grove, Minneapolis, Saint Paul, and Woodbury, the five cities surveyed as part of the "A" Minor Arterial System Evaluation Study. Some of the plans acknowledge the role of freight in promoting economic activity and included policies emphasizing the identification and improvement of roads best suited for carrying freight while limiting impacts (noise, traffic, etc.) to residential land uses. All of the plans reviewed as part of the "A" Minor Arterial System Evaluation Study have policies for improving bicycle and pedestrian amenities or connections. The bicycle and pedestrian system policies range from developing a complete trail system in rural areas to providing practical transportation options through Complete Streets in fully developed areas.

While policies exist, data is only available and has been collected for general traffic, transit, and general capital investments in the "A" Minor Arterial system. Data is not available to help the region understand the role of the "A" Minor Arterials in supporting economic activity and the freight, bicycle, and pedestrian systems. Intuitively the region knows "A" Minor Arterials are important to the economy because many regional job and shopping centers are located along "A" Minor Arterials and "A" Minor Arterials connect rural centers to each other. Over-the-road shippers identify the "A" Minor Arterial system as key in moving freight between industrial and commercial businesses and the Principal Arterial network. And road authorities report that most "A" Minor Arterials include sidewalks, trails, bike lanes, or crossings as appropriate for context. The Metropolitan Council and TAB should assemble needed data on "A" Minor Arterial freight, bicycle, and pedestrian use and investments. Data should also be assembled for how "A" Minor Arterials support the local and regional economy.

~~10.~~11. **The analysis performed for this study was possible because the study created a new database combining MnDOT and Metropolitan Council highway information. MnDOT and the Metropolitan Council should make the database available to all agencies and work together and decide how to best maintain the GIS database of highway and administrative and functional classification information developed as part of this study.** For the first time in the region and because of recent advances in GIS technology, the "A" Minor Arterial study was able to merge and analyze Metropolitan Council data (administrative functional classification, regional development planning areas, and bus trips) with MnDOT Transportation Information System (TIS) data (centerline miles, lane-miles, traffic volumes, and crashes). The "A" Minor Arterial System Evaluation Study could not have been completed in the same way without this new database, and it will be valuable to the region including to the TAB, MnDOT, Metropolitan Council, counties, and cities. It

should be maintained in the future and made available to all agencies to support analyses like the "A" Minor Arterial System Evaluation Study.

12. **Considerable effort was required to collect and summarize "A" Minor Arterial funding information at the regional level. The Metropolitan Council and TAB should evaluate if funding data by functional classification, like that provided in this study, ~~is~~ are valuable and if ~~it is~~they are, should work with agencies to develop and implement a system of collecting and summarizing the information to make it more readily available and consistent for analysis.** MnDOT, the counties, and the cities use a variety of funding sources to build and maintain the "A" Minor Arterial system. The study team investigated approaches for collecting funding data from each road authority and confirmed that funding information for the Twin Cities "A" Minor Arterial system is not available from a single source. This study collected and summarized comprehensive funding data for the "A" Minor Arterial for the first time. If the Metropolitan Council and TAB would like to complete analysis efforts like this in the future, the region would benefit from improved ways of collecting and summarizing funding by roadway functional classification.