

## **KATS Complete Streets Policy (CSP) Summary and Fact Sheet**

Submitted to KATS September 15, 2015

*Please see Introduction in Appendix A*

### **Section 1: Summary**

Material on this page is drawn from public records and the most recent CSP.

The CSP was drafted and proposed by local policy making representatives. The process started in January 2014. The current version has been through three rounds of public comment, review and revision. The KATS Technical Committee has recommended approval of the CSP (contingent on one amendment). The CSP will be presented for vote at the KATS Policy Committee on September 24, 2014 where it may be further amended, adopted, tabled or not adopted. The CSP applies to federal-aid eligible transportation projects submitted for funding beginning in FY 2018.

The Federal Aid process is elective, competitive and depends on the amount of Federal funds available. Eligible agencies decide whether to submit a project for funding. Funding is awarded to projects receiving the most points during a systematic prioritization process “until the funds are used up for the year.” No agency has a pre-emptive right to the funds.

The CSP only applies to improvement (e.g., new roadways, reconstructed bridges and Federal Transit Administration facility improvements, etc.--not maintenance), projects within the KATS MPO’s central “urbanized boundaries.” By definition, most rural areas are outside this boundary and do not need to comply with the CSP.

The CSP uses standard definitions of Complete Streets, namely, that roads and their right of ways be “planned, designed, and constructed to provide appropriate access to all legal users” together with Context Sensitivity, i.e., that projects “fit their surroundings.” Factors such as accident statistics, planned residential subdivisions, school building projects, will play a part in deciding what fits the context; for example, on a bridge that is only rebuilt every 50 years or so, it is possible that sidewalks and wider shoulders may be required for Federal funding.

The current project prioritization system will not change due to the CSP. Projects will retain their prioritization rating throughout the project review process. This process allocates half of the possible points to road condition and traffic volumes.

Minimum “existing roadway facilities” (to be judged as already compliant) or that must be added to a project (to gain compliance, if not existing already) will depend on what is appropriate for the context. Specific minimums and standards will be determined over time.

Agencies submitting projects may ask for an exemption from the CSP when their projects are first submitted. All such projects will be referred to the KATS Technical Committee. Exception requests that are not granted will automatically be forwarded to the KATS Policy Committee.

The CSP will be evaluated and can be amended through the normal course of KATS policy making.

Cities and Villages within the CSP boundaries submit their own projects directly to KATS. The Kalamazoo County Road Commission (KCRC) is the only Act 51 agency that may submit projects that affect the Townships in Kalamazoo. The Van Buren County Road Commission (VBCRC) does likewise for certain roads within the urbanized areas in Almena and Antwerp townships near Mattawan.

## **Section 2: Fact Sheet**

Material on this page is drawn from Appendices B-D.

### Inventory

There are approximately 1150 lane miles of federal aid eligible roads within the boundaries included in the KATS Complete Streets Policy. The Kalamazoo County Road Commission (KCRC) has 195 miles within the boundaries.

A “significant” portion of the KCRC Urban Primary Network has four foot paved shoulders.

Seventeen (out of 93 total) bridges are under KCRC’s jurisdiction within the CSP boundaries.

### Costs

The cost of adding one additional foot of shoulder to a roadway that already has a full depth gravel shoulder are approximately \$30,000 per mile. These costs assume that no tree removals or drainage improvements are required.

On KCRC’s right of ways, the cost of adding sidewalk to each side of the road is approximately \$300,000 to \$400,000 per mile (depending on the amount of tree removal, grading, and drainage work). Per KATS, costs for both sides of the road are “\$260,000/mile but can vary by agency, location and existing conditions.”

National Safety Council estimates costs of motor vehicle injuries to be: Average Economic Cost per Death, Injury, or Crash, 2012 -- Death \$1,410,000; Nonfatal Disabling Injury \$78,900; Property Damage Crash (including nondisabling injuries) \$8,900.

### Budgets

MDOT states a crash reduction factor of “5% per foot widened each side” for widened shoulders; an 85% pedestrian crash reduction factor for “Sidewalk for Pedestrians;” and a 50% bicycle crash reduction factor for “Bicycle Lanes.”

### Funding

Rural and urban areas have separate funding sources.

In FY 14-17, approximately 70 projects applied for Federal funding. Only 27 were awarded funding. Across the entire KATS planning area, approximately \$3.5 million is typically awarded.

There is no obligation by Act 51 agencies to seek Federal Aid funding for projects. Projects using state and local funding are not required to meet KATS criteria for projects.

### Planning and Timing

KATS has a Metropolitan Transportation Plan that includes non-motorized plans, and is working on the next update of this Plan.

The Michigan Department of Transportation recently released a report entitled “The Community and Economic Benefits of Bicycling in Michigan.” The report states that bicycling provides an estimated \$668 million per year in economic benefit to Michigan's economy, including employment, retail revenue, tourism expenditure, and increased health and productivity.

### **Section 3: Hypothetical Scenarios**

#### Township: Scenario One

#### **Adding a Sidewalk to an Act 51 Agency's Project**

##### Initial Condition

1. Urban arterial connector to regional commercial retail center; public high school; assisted living facilities; regional educational services center; regional non-motorized shared-use pathway; small business commercial; single-family, multifamily and student housing.
2. Existing conditions are a two-lane paved road without non-motorized; End-point intersections and two mid-point intersections are signal controlled; two intersections provide pedestrian signals.
3. City plans 0.44 mi of roadway widening, lane additions and sidewalk (on their municipal-side only); township lacks sidewalk on township side.

##### Assumptions

4. Addition of a sidewalk project on the Township side (i.e., on just one side of the road is estimated to be one-half of the estimated average cost of \$350,000 per mile ( $1/2 * \$350,000 * 0.44 \text{ mi} = \$77,000$ ).

##### Result without CSP

5. Township uses general funds (i.e., township taxpayer's monies) to pay for 100% of the non-motorized facility project cost (\$77,000). Project is constructed independently and without Act 51 monies.

##### Result with the proposed CSP (if approved by KATS)

6. Township non-motorized facility cost is limited to a standard 20% Local Match for federal-aid projects (e.g. \$20% of \$77,000 = \$15,400).

#### Township: Scenario Two

#### **Adding Widened Shoulder to an Act 51 Agency's Project**

The same logic as used in Scenario One can be applied to a project involving a Township's desire to widen the shoulders of a road. Per Appendix C, the cost of adding one additional foot of shoulder to a roadway that already has a full depth gravel shoulder will be approximately \$30,000 per mile.

##### Result without CSP

1. In this case, the township's taxpayers will need to pay \$30,000 per additional foot the shoulder is widened, per mile (cost covers both sides of the road).

##### Result with the proposed CSP (if approved by KATS)

2. Township taxpayer cost is limited to a standard 20% Local Match for federal-aid projects (e.g. \$20% of \$30,000/foot per mile = \$6,000 per additional foot the shoulder is widened, per mile (cost covers both sides of the road).

Material for Scenarios One and Two provided by Marc Elliott, PE, Township Engineer, Charter Township of Oshtemo

### Township Safety: Scenario Three

#### **Calculating Time of Return on Widened Shoulder**

##### Initial Condition

1. One mile stretch of two lane paved road with two-way traffic flow located “in between” rural and urban area; shoulder = 2 foot paved + two foot full depth gravel.
2. One crash on stretch in past five years, not at intersection; lane departure; collision with tree (fixed object); one fatality; year of crash is 2013.
3. Plan is to widen paved shoulder by two feet over current gravel shoulder base.

##### Assumptions

4. Total cost of adding one additional foot of shoulder to a roadway that already has a full depth gravel shoulder will be approximately \$30,000 per mile; tree removal not required; total project cost = \$60,000.
5. Crash reduction factors, estimated cost of fatality, time of return calculations all per MDOTs Time of Return Spreadsheet found in link on [http://www.michigan.gov/mdot/0,4616,7-151-9625\\_25885\\_40552---,00.html](http://www.michigan.gov/mdot/0,4616,7-151-9625_25885_40552---,00.html)
6. Default average daily traffic volume and inflation rate kept at default values.

##### Results

7. Time of return = 8.6 years.
8. If Federal matching funds obtained, local cost = 20% of \$60,000, i.e., \$12,000.
9. If above conditions/assumptions are held constant, but cost is doubled to \$120,000 to pay for four foot shoulder (replacing four foot full depth gravel shoulder), time of return = 8.6 years (since “crash reduction factor” benefit doubles even as cost doubles, too). Local cost = \$24,000 if Federal matching funds obtained.

### Township Safety: Scenario Four

#### **Calculating Time of Return on Sidewalks**

##### Initial Condition

1. One-half mile stretch road located “in between” rural and urban area; no sidewalk in front of school located in middle of that stretch.
2. One pedestrian crash on stretch in past five years, not at intersection; one fatality; year of crash is 2013.
3. Plan is to install sidewalk on both sides of the road in that stretch.

##### Assumptions

4. Per same cost assumptions as in Scenario One, total cost = \$350,000.
5. Crash reduction factors, estimated cost of fatality, time of return calculations all per MDOTs Time of Return Spreadsheet found in link on [http://www.michigan.gov/mdot/0,4616,7-151-9625\\_25885\\_40552---,00.html](http://www.michigan.gov/mdot/0,4616,7-151-9625_25885_40552---,00.html)
6. Default average daily traffic volume and inflation rate kept at default values.

##### Results

7. Time of return = 5.9 years.
8. If Federal matching funds obtained, local cost = 20% of \$350,000, i.e., \$70,000.

Material for Scenarios Three and Four provided by Paul Selden with step by step assistance from Lynnette Firman, PE, Safety Engineer, MDOT. Ms. Firman’s help was invaluable and is gratefully acknowledged.

## Appendix A Introduction

This document provides a quick summary of KATS' proposed Complete Streets Policy, plus a synopsis of relevant key facts. Supporting material may be found in these Appendices.

On August 27, 2014, a number of Kalamazoo Area Transportation Study (KATS) Policy Committee members voiced a desire to have a simple "executive summary" of facts concerning KATS' proposed Complete Streets Policy. Then, during the KATS Non-Motorized Committee meeting held on September 4, representatives of interested parties involved in the decision-making process initiated an effort to respond to these Policy Committee members' desire.

The group of volunteers that produced this document included Marc Elliott, Township Engineer, Charter Township of Oshtemo; Matt Johnson, City Engineer, City of Kalamazoo (and KATS Technical Committee member); Paul Selden, Director of Road Safety, Kalamazoo Bicycle Club (and organizer of Bike Friendly Kalamazoo); and, John Zull, Kalamazoo County Commissioner (and KATS Policy Committee member). Paul Selden served as editor; as such, I gratefully acknowledge the spirit of community-mindedness shown by my fellow volunteers.

The group worked under a tight deadline. The group had a little over a week to put the document together. The intent was release this document to KATS and the general public quickly, providing time for as much review as possible.

The aim of the group was to create a document that would pass the scrutiny of a cross-section of interested stakeholders. The idea was to allow room for diverse and even controversial perspectives, while still meeting the tests of an open, refereed process.

Instructions to the group included:

- all content must be based on facts or logical and mathematically sound derivations, not opinions or simple assertions
- all statements must be fact based and cited in sources the public can obtain on the web
- content must stick to the point and be easy to understand
- content must let the decision makers form their own conclusions and not be our own conclusions.

In the case of legitimate disagreements related to content, if there was some sort of controversy that could not be resolved, that material was to be included in a separate appendix (and noted as unresolved, much as in the case of public dissenting opinions in Supreme Court rulings).

Participants were asked to pose realistic hypothetical scenarios aimed at surfacing and directly addressing some of the most controversial claims situations that seemed to surround the proposed CSP. All scenarios received are included in Section 3; no other scenarios were submitted.

Contents of this document include:

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Appendices B and C: Answers provided by KATS (Page 6) and the Kalamazoo County Road (Page 17) Commission to Technical Questions presented by an Ad Hoc Work Group

Appendix D: Fact Based Resources Re. Complete Streets (Page 20)

Appendix B  
**Answers Provided by Steve Stepek, Senior Planner, KATS  
to Technical Questions Presented by Ad Hoc Work Group**

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**Admin**

**List of Technical Questions Regarding Facilities within KATS MPO  
Released to KATS**

July 28, 2014

The intention of these questions is to ultimately provide interested parties with information useful to understanding some of the major roads and related facilities in our greater community. Those providing answers are kindly encouraged to make them available to the Kalamazoo Area Transportation Study (KATS) and the general public in a timely manner.

We understand that some of the questions may be difficult or impossible to answer for a variety of reasons. In such cases, it will help the reader if a brief explanation is provided as to why this may be so.

Thanks is given to all those participating in the effort to create and refine the questions, and thanks is given in advance to all those who participate in providing the answers.

Inventory

1. How many miles of federal aid eligible roads are in the entire KATS Planning Area?

**KATS:** There are approximately 2000 lane miles of federal aid eligible roads in the KATS Planning area.

2. How many miles of those same roads are within the KATS Adjusted Census Urban Boundary (ACUB)?

**KATS:** There are approximately 1150 lane miles of federal aid eligible roads within the KATS ACUB. This is a rough approximation, due to the recent adoption of the ACUB and it being deployed into our system.

3. How many miles of roads within the entire ACUB already have at least one of the following?

- a) sidewalk (on one or both sides)

- b) shared use path

- c) four foot shoulders

**KATS:** KATS is currently updating its inventory of sidewalks and four foot shoulders on federal aid eligible roads. There are approximately 50 miles of shared use paths along federal aid roads.

4. Within the ACUB, estimate to what extent each of the Act 51 agencies currently have Federal Aid eligible roads that meet at least one of the following criteria:

- a) sidewalk (on one or both sides)

- b) shared use path

- c) four foot shoulders

KATS: KATS does not track this information. However, it is estimated that the Cities and Villages have a majority of their federal aid roads in compliance. The Road Commissions do not.

5. How many miles of Federal Aid roads within the ACUB already have the following?  
a) four foot paved shoulder

KATS: KATS is currently updating its inventory of this data.

- b) three foot paved shoulder plus one foot of gravel shoulder  
c) two foot paved shoulder plus two feet of gravel shoulder  
d) one foot paved shoulder plus three feet of gravel shoulder  
e) no paved shoulder plus gravel shoulder  
f) no shoulder

KATS: (b-f) KATS does not collect this data.

6. How many bridges are within the ACUB that qualify for Federal aid through KATS?7. How many of those bridges lack any of the following?

- a) four foot shoulders (but do have sidewalks on both sides of the bridge)  
b) sidewalks on both sides of the bridge (but lack four foot shoulders)  
c) both four foot shoulders and sidewalks on both sides of the road

KATS: There are approximately 171 Bridges (structures with unique ID's) within the KATS Planning Area, 93 of which are within the ACUB. This includes highway structures.

KATS is currently collecting sidewalk and shoulder data on bridges.

### Costs

8. Generally speaking, what is the cost per mile of adding:  
a) one additional foot of paved shoulder on each side of the road (assuming the existing shoulder is 3 ft paved + 1 ft gravel)?  
b) an additional two feet (assuming the existing shoulder is 2 ft paved+ 2 ft gravel)  
c) an additional three feet (assuming the existing shoulder is 1 ft paved+ 3ft gravel)  
d) an additional four feet (assuming only a 4 ft of gravel shoulder)

KATS: Varies by agency, location and existing conditions. Typically \$3/square foot for a paved shoulder.

9. Generally speaking, what is the cost per mile of adding a new sidewalk on each side of the road?

KATS: Typically most projects in the TIP are well less than one mile in length. Typical cost for both sides has been \$260,000/mile but can vary by agency, location and existing conditions.

10. Review the following items (drawn from the list of benefits of paved shoulders mentioned by AASHTO at <http://www.walkable.org/assets/downloads/22%20Reasons%20for%20Paved%20Shoulders.pdf>) and quantify those that can be quantified:

a) what is the lifespan (or other fair measure, such as the length of time between major repaving projects, etc.) of a road with four foot paved shoulders, vs. roads without paved shoulders?

KATS: Many factors impact the lifespan of a roadway. Wide shoulders generally increase the lifespan of the roadway. Due to the many other factors that impact the pavement lifespan, it is difficult to quantify. However, the link provided has many great examples of reason for wide paved shoulders.

b) what are typical required annual costs to mow the shoulders or otherwise maintain a mile of road without shoulders, vs. the comparable annual required costs to maintain a mile of road with four foot shoulders?

KATS: KATS does not track maintenance costs such as mowing.

11. What is the typical annual cost to maintain a mile of sidewalk in “good” condition?

KATS does not track maintenance costs; typically sidewalk maintenance is the responsibility of the adjacent property owner.

12. Generally speaking, what is the cost per mile for adding a shared use path to one side of the road?

KATS: Typically a shared use path would not be built on the side of the road. Not including right-of-way, a detached shared use path costs approximately \$430,000/mile per [www.pedbikesafe.org](http://www.pedbikesafe.org) (FHWA site)

13. Generally speaking, what is the cost per mile for resurfacing the following?

a) two lane road KATS – approx. \$320,000 for 3” mill and fill

b) four lane road KATS – approx. \$640,000 for 3” mill and fill

### Budgets

14. Over the past few years what is the percent of road project dollars that have actually been:

a) allocated to non-motorized?

KATS: KATS does not track line item amounts within projects. If the project is only programmed with Transportation Alternative/Enhancement funds, KATS has the ability to identify the amount, for example approximately \$1.4 million is identified in FY 2014 for a variety of non-motorized facilities within the area.

b) actually spent on non-motorized?

KATS: KATS does not program (allocate) funding unless the project is anticipated to be built. If, for whatever reason, a project is unable to be built within the FY, KATS reallocates the money.

15. In 2018-2020 what is the percentage reasonably expected to be allocated toward non-motorized facilities if projects awarded for Federal Aid in the ACUB must include at



least one of the following: a) sidewalk (on one or both sides); b) shared use path; c) four foot shoulders?

KATS: KATS has not programmed any funds for FY 2018 through FY 2020, with the exception of Congestion Mitigation and Air Quality funds.

16. Within the ACUB, but excluding the cities and villages, what is the budget typically allocated to Federal Aid projects vs. non-Federal Aid projects?

KATS: KATS is not able to answer this question for the Act 51 agencies.

17. Are Act 51 agencies independently audited to find out what percent of their budget has been spent on non-motorized?

KATS: KATS is not able to answer this question for the Act 51 agencies.

18. What is a reasonable estimate (if precise figures are not available) of the percent of KATS project budgets in 2010-2013 that was spent on new non-motorized facilities? If it is not possible to estimate these figures for 2010-2013, pick another reasonable three year project window to estimate.

KATS: Approximately \$1.4 million of directly related funding (Alternatives/Enhancement) is identified in FY 2014. KATS does not track road projects for their non-motorized line item(s) BUT almost all FY 14 projects have a nonmotorized element, averaging 15% of project cost.

19. Does KATS allocate Federal aid funding to routine annual road maintenance projects such as filling potholes?

KATS: No, KATS does not fund maintenance activities. Act 51 funds, local unit contributions, millage, assessments, etc. are available for maintenance activities.

### Funding

20. What is the percentage of the various funding sources for roads within the KATS ACUB?

KATS: Funding is not limited to the ACUB but applicable to the entire study area. Funding varies slightly by FY. KATS prioritizes and allocates the approximate annual amounts listed below:

Transportation Alternatives Program: \$243,000

Congestion Mitigation Air Quality: \$900,000

Surface Transportation Funding: \$2,900,000

National Highway Performance Program: \$525,000

21. What are the major categories of funding for road projects (such as annual maintenance, resurfacing, major restructuring/geometric changes, etc.), and, what is a fair estimate of the allocation of funding for each category by the major Act 51 agencies in the KATS MPO over a five year (or comparably long term, "typical") period?

KATS: KATS is not able to answer this question for the Act 51 agencies.

22. Annually, about how many projects for major roads within the entire ACUB typically:

- a) get implemented
- b) apply for Federal funding through KATS
- c) are awarded Federal funding through KATS?

KATS: answer to a) – c) is 10-15 non-trunkline projects.

23. Annually, about how many dollars for major road projects within the entire ACUB typically are:
- a) spent on implementation
  - b) applied for, as Federal funding through KATS
  - c) awarded Federal funding through KATS?

KATS: KATS does not track Act 51 funds; see answers to #20 and #26

24. Describe the extent to which the current KATS funding process can “divert” money that could be spent in areas outside the ACUB, to non-motorized within the ACUB, or the extent KATS otherwise allows such “outside ACUB” funds to be diverted to such projects “inside the ACUB?”

KATS: The rural and urban areas have separate funding sources.

25. If it can be assumed for the sake of a hypothetical example that on some projects, the percent of a project’s budget allocated to non-motorized is 2%, and assuming that 1% of the project budget is already “funded” through the existing tax allocation, to what extent would the local funding entity need to “make up the difference” by reducing necessary pressing maintenance needs, such as pothole repair and chip-sealing? Where would the money come from, in this hypothetical example?

KATS: KATS is not involved in local agency priority setting or budgeting process.

26. Annually, about how many projects for major roads within the entire ACUB typically:
- a) get implemented
  - b) apply for Federal funding through KATS
  - c) are awarded Federal funding through KATS?

KATS- During the last TIP development (FY 14-17), approximately 70 projects applied for funding.

KATS-During the last TIP development, 27 projects were awarded funding. Over time, that number has changed (TIP Amendments). These projects include road construction and transit projects.

27. Annually, about how many dollars for major road projects within the entire ACUB typically:
- a) are spent on implementation
  - b) are applied for, as Federal funding through KATS
  - c) are awarded Federal funding through KATS?

KATS: KATS, by law, completes a four year Transportation Improvement Program. KATS allocates only certain federal aid funds (see question 20) and does not allocate or track local funds for roads.

## Federal Aid Qualifications

28. To what extent are trails and shared paths that are not in the right of way relevant to cost considerations within KATS?

KATS: KATS considers all viable means to help create a multi-modal transportation system.

29. Does the Kalamazoo River Valley Trail qualify for federal aid? What percent of the KRVT is paid for by private funds such as donations?

KATS: The KRVT does qualify for federal funding. It has received federal Enhancement funding in the past. The amount of match (private dollars) has varied over the years, from as much as 50% to 60%, to as little as the minimum 20%

30. Are Act 51 agencies obligated to seek Federal Aid funding for projects? If not, what is the source of funding for those projects that do not receive Federal Aid, and, are such projects obligated to meet KATS criteria for projects?

There is no obligation by Act 51 agencies to seek Federal Aid funding for projects.

Additional sources of funding include state and local funding sources. Projects utilizing state and local funding are not required to meet KATS criteria for projects.

31. Describe KATS' current system for scoring/prioritizing projects (or reference/link to a document that does so, if publicly available), and whether current bylaws etc., permit that system to be changed, if, hypothetically speaking, the Policy Committee voted to require projects to meet criteria that are not currently in place?

## **PROJECT PRIORITIZATION PROCESSES**

### Federal Surface Transportation Funding Program (STP)

The complete KATS TIP Project Prioritization Process may be viewed online at: <http://katsmpo.files.wordpress.com/2012/10/project-prioritization-process-december-2013.pdf>

Any revisions to the KATS Prioritization Process require Policy Committee approval before implementation. Suggested revisions to the process will be presented to the members of the Technical Committee for a recommendation prior to inclusion on the Policy Committee agenda as an action item.

## DEFINITIONS

ADT (Average Daily Traffic):

- Count must be within 3 years of project.
- Count totals/divisions may need revision

Existing Condition:

- PASER for Roads, data is already collected and maintained by KATS staff

- If a roadway has more than one rating for the length of the project, the worst condition will be used.

Local Planning Description:

- Project conforms with either local land use plan, corridor plan, Complete Streets plan, water and sewer master plan, or other locally supported planning document

Environmental Justice:

- Project is located within, or directly adjacent to, an Environmental Justice area defined in the KATS Metropolitan Transportation Plan

Safety:

- Project has a three year crash history that exceeds KATS adopted thresholds

Commercial Corridors of Significance:

- Corridor is identified within the KATS Freight Plan

Prioritization Process Factors

Factor	Measure	Points Available
ADT (Average Daily Traffic)	ADT / 1000, rounded	Up to 25
Condition- PASER	PASER (Pavement Surface Evaluation and Rating) 0-2 5 points 3-4 20 points 5-6 10 points 7-10 0 points 100% Preserve +5 points	Up to 25
Local Planning and Economic Development	Identified in Local Planning Efforts 5 points will be assigned up to a maximum of 15 for every capital, master plan and economic development plan that the project supports	Up to 15
Environmental Justice	Project located in identified EJ area	10
Safety	Project has a three year crash history that exceeds KATS adopted thresholds	5
	Project corrects the above Identified safety issues	10

Commercial Corridors  
Of Significance

Projects is on a corridor  
identified in KATS Freight Plan

10

Total: 100

32. Describe in general terms the planning document or process that indicates how non-motorized investments (e.g., four foot shoulders, sidewalks on both sides of the road, shared use paths) fit within the KATS regional transportation network?

**KATS:** KATS, by law, is required to develop a multi-modal transportation plan. Title 23 Section 217 (g):

**(g) Planning and Design.—**

**(1) In general.—** Bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State in accordance with sections 134 and 135, respectively.

Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted.

**(2) Safety considerations.—** Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians. Safety considerations shall include the installation, where appropriate, and maintenance of audible traffic signals and audible signs at street crossings.

33. The American Association of State Highway and Transportation Officials (AASHTO) states:

“All roads, streets, and highways, except those where bicyclists are legally prohibited, should be designed and constructed under the assumption that they will be used by bicyclists. Therefore, bicyclists’ needs should be addressed in all phases of transportation planning, design, construction, maintenance and operations. All modes of transportation, including bicycles, should be jointly integrated into plans and projects at an early stage so that they function together effectively.” To what extent does this AASHTO policy factor into the current KATS project scoring/prioritization process?

**KATS:** The AASHTO policy statement is not considered in the prioritization process.

34. Is it within KATS’ purview (say, under the auspices of a technical non-motorized committee) to establish a system to prioritize available funding to, for example, rank potential projects or to establish an investment threshold? Would the technical committee or the policy committee be better suited to create such a system based upon factors such as urbanized density and the proximity of residences to destinations such as commercial areas, schools, libraries, or recreational areas; ranking of routes that do not have significant use by a wide range of pedestrians due to high traffic volume and high speed; and/or routes that have more/significant excess capacity for motorized vehicles and can be reconfigured?

**KATS:** KATS will look to prioritize projects through the non-motorized portion of the Metropolitan Transportation Plan. Policy Committee, Technical Committee, and the public will all provide input and guidance on how those projects are prioritized.

## Planning and Timing

35. For how many years in advance does KATS and the other local Act 51 agencies who depend on federal aid for road funding actually plan their projects?

**KATS:** KATS develops the Transportation Improvement Program (TIP) every 3 years. The TIP covers a 4 year program, so there is a one year overlap between TIPs. Local agencies develop a 5-10 year CIP.

36. Provide an example of how a project budget be as much as 20% non-motorized when the funding allocation to non-motorized is 1%?

**KATS :** 20% is the threshold identified in the draft Complete Streets Policy. Most of KATS funding is flexible for different mode choices. The referenced 1% is a State ACT 51 requirement.

37. What accounting code is used to code non-motorized projects so as to permit an accounting of its allocation at all?

**KATS:** Local agencies maintain their own project accounting.

38. On projects not granted Federal aid, in a given 3-5 year period within the ACUB, what percent of Federal Aid township road miles (that is, those making use of the Kalamazoo County Road Commission as their Act 51 Agency) include non-motorized facilities in the projects, and, what is the typical percent of their budgetary allocation?

**KATS:** KATS does not track local funding of individual projects on the federal aid system, only inventory after project is completed.

39. On projects that are granted Federal aid, in a given 3-5 year period within the ACUB, what percent of Federal Aid township road miles (that is, those making use of the Kalamazoo County Road Commission as their Act 51 Agency) include non-motorized facilities in the projects, and, what is the typical percent of their budgetary allocation?

**KATS:** KATS does not track line items within the Transportation Improvement Program.

40. If, hypothetically speaking, Federal Aid eligible road projects were all required to meet at least one of the criteria listed below, at the current rate of project completion, how many years would it take before all of the projects met these criteria?

a) sidewalk (on one or both sides)

b) shared use path

c) four foot shoulders

**KATS:** Further study and analysis would be necessary to make this projection given the aforementioned inventory currently underway, the prioritization process, and the ongoing nature of the CIPs of the various Act 51 agencies.

41. If projects in the ACUB were required to have at least a minimum non-motorized component (e.g., one of the following: four foot shoulders, sidewalks on both sides of the road, shared use path on one side of the road) if they were not already present, what is a reasonable estimate of the percent of the budget for non-motorized that

would need to be added to the existing 2014-2017 project budgets to immediately approve them, if they are not already included in the existing project budgets?

42. List the Act 51 agencies in the KATS MPO that have:  
a) non-motorized or Complete Streets type of policies/ordinances

**Act 51 agencies with a Complete Streets Policy:**

Village of Paw Paw

**Act 51 agencies with a Non-motorized Policy or Ordinances:**

b) non-motorized or comparable plans

**Act 51 agencies with a Non-motorized (or comparable) Plan:**

City of Kalamazoo, City of Portage

43. Do other MPOs have Complete Streets Policies? Please list some, with links to their policies.

**To Name a Few:**

Twin Cities Area Transportation Study (TwinCATS)

[http://www.swmpc.org/downloads/walk\\_and\\_roll\\_draft\\_complete\\_streets\\_policy\\_final\\_6182012.pdf](http://www.swmpc.org/downloads/walk_and_roll_draft_complete_streets_policy_final_6182012.pdf)

Washtenaw Area Transportation Study (WATS)

[http://static.squarespace.com/static/524e0929e4b093015db69c07/t/52714e1fe4b093a68b39c286/1383157279310/Complete\\_Streets\\_Plan.pdf](http://static.squarespace.com/static/524e0929e4b093015db69c07/t/52714e1fe4b093a68b39c286/1383157279310/Complete_Streets_Plan.pdf)

Indianapolis Metropolitan Planning Organization

[http://www.indympo.org/Plans/MultiModalPlanning/Documents/Complete%20Streets/IMPO%20FINAL%20Complete%20Streets%20Policy\\_March%202014.pdf](http://www.indympo.org/Plans/MultiModalPlanning/Documents/Complete%20Streets/IMPO%20FINAL%20Complete%20Streets%20Policy_March%202014.pdf)

44. What is the current rate of usage of roads and their right of ways by various classes of motorized and non-motorized users? To what extent does KATS use data from sources such as [http://www.pedbikeinfo.org/data/factsheet\\_general.cfm](http://www.pedbikeinfo.org/data/factsheet_general.cfm) to answer this question and questions like it?

KATS: KATS uses national statistics to determine an estimated non-motorized use. KATS is currently updating the Travel Demand Model to estimate non-motorized use.

45. What is the expected change in population within the ACUB (based on whatever time projection period is available from respected sources of information)?

KATS is currently working on its next Metropolitan Transportation Plan, which will include updated populations projections through 2045. The KATS 2035 Metropolitan Transportation Plan includes population projections (pg 26-31).

46. What does the State of Michigan (or other respected source of non-motorized and motorized) data, show about the long term trends for these major user classes of users? Describe other relevant facts that pertain to long term trends, such as whether Governor Snyder has declared that he wants the State of Michigan to become known

as a “trail state.” Is it correct that the State of Michigan has found that bicycle tourism is the fastest growing form of tourism in the State? To what extent can we predict that the demographic trends found in articles such as <http://www.peopleforbikes.org/blog/entry/bike-use-is-rising-among-the-young-but-it-is-skyrocketing-among-the-old> apply to Southwest Michigan?

KATS: refer to the recently released report: *Community and Economic Benefits of Bicycling in Michigan*. This report is Phase I of a two-phase project that explains the economic benefit bicycling has on Michigan's local and statewide economies. The 2014 report finds that bicycling provides an estimated \$668 million per year in economic benefit to Michigan's economy, including employment, retail revenue, tourism expenditure, and increased health and productivity.  
[http://www.michigan.gov/documents/mdot/MDOT\\_CommAndEconBenefitsOfBicyclingInMI\\_465392\\_7.pdf](http://www.michigan.gov/documents/mdot/MDOT_CommAndEconBenefitsOfBicyclingInMI_465392_7.pdf)

List [of questions] compiled and reviewed by:

Jeff Hepler  
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Ken Schippers  
John Zull  
Paul Selden, editor

###

[Editor: We sincerely thank Steve Stepek and KATS for the time and effort it took to prepare these answers.]



Appendix C  
**Answers Provided by Tom Hohm, Chief Engineer, KCRC  
to Technical Questions Presented by Ad Hoc Work Group**  
###  
**List of Technical Questions Regarding Facilities Within KATS MPO**  
July 21, 2014

1. How many miles of federal aid eligible roads are in the entire KATS Planning Area?

KCRC has 386 miles of countywide federal aid eligible roads (urban plus rural).

2. How many miles of those same roads are within the KATS Adjusted Urbanized Boundary (KAUB)?

KCRC has 195 miles of urban federal aid eligible roads.

3. How many miles of roads within the KAUB already have the following?

- a) four foot paved shoulder
- b) three foot paved shoulder plus one foot of gravel shoulder
- c) two foot paved shoulder plus two feet of gravel shoulder
- d) one foot paved shoulder plus three feet of gravel shoulder
- e) no paved shoulder plus gravel shoulder
- f) no shoulder.

Shoulder inventory is not currently available. A significant portion of the KCRC Urban Primary Network has 4 foot paved shoulder. See the MDOT 3R Design Guidelines. If the roadway has a concrete curb then generally there is no shoulder.

4. Generally speaking, what is the cost per mile of adding each additional foot of asphalt to the shoulder on each side of the road?

The cost of adding one additional foot of shoulder to a roadway that already has a full depth gravel shoulder will be approximately \$30,000 per mile. If the additional foot is beyond the pavement structure then the cost is approximately \$60,000 per mile. These costs assume that no additional tree removals or drainage improvements are required.

5. Generally speaking, what is the cost per mile of adding a new sidewalk on each side of the road?

The cost of adding sidewalk to each side of the road is approximately \$300,000 to \$400,000 per mile. The cost is heavily dependent on the amount of tree removal, grading, and drainage work that is required.

6. How many bridges are within the KAUB?

KCRC has 60 total bridges of which 17 are within the urban boundary.

7. How many of those bridges lack:

- a) four foot shoulders (but do have sidewalks on both sides of the bridge)
- b) sidewalks on both sides of the bridge (but lack four foot shoulders)
- c) both four foot shoulders and sidewalks on both sides of the road

We will have to review our inventory/ inspection reports to respond. Generally the bridge will have a shoulder that matches the shoulder on the road. Additionally, the bridge generally has a sidewalk if the approaching road has sidewalk.

8. To what extent are trails and shared paths that are not in the right of way relevant to cost considerations within KATS?

These shared use path type of projects that depart from the right-of-way are eligible for federal funds if a transportation component is demonstrated.

9. Does the Kalamazoo River Valley Trail qualify for federal aid? What percent of the KRVT is paid for by private fund such as donations?

Yes, Kalamazoo River Valley Trail does qualify for the Federal Transportation Enhancement Program, which recently has been renamed the Federal Transportation Alternatives Program. Typically the Federal Enhancement or Transportation Alternatives projects are funded at 50% federal and 50% local (Kalamazoo County Parks Foundation). More recently MDOT has permitted KRVT to be funded at 80% federal and 20% local as this is a priority project for the State.

10. Over the past few years what is the percent of road project dollars that have actually been:  
a) allocated to non-motorized?  
b) actually spent on non-motorized?

KCRC is required by state law to designate a minimum of 1% to non-motorized facilities. KCRC continually exceeds this requirement.

11. Over the next few years what is the percentage expected to be allocated toward non-motorized if the Policy as worded today is adapted?

This requires field scoping work followed by development of project cost estimates. This work has not been done yet.

12. Provide an example of how a project budget be as much as 20% non-motorized when the funding allocation to non-motorized is 1%?

As an example a one mile road reconstruction project may cost 800,000 and the sidewalks will cost \$400,000. The total project cost is \$1,200,000 of which 33% is for the non-motorized category.

13. Are Act 51 agencies audited to find out what percent of their budget has been spent on non-motorized?

Yes.

14. What accounting code is used to code non-motorized projects so as to permit an accounting of its allocation at all?

KCRC tracks non-motorized expenditures to comply with state law. The expenditures on paved shoulders that are four feet wide or wider are eligible.

15. For how many years in advance does KATS and its local agencies who depend on federal aid for road funding actually plan its projects?

Using preliminary scoping and budgeting, KCRC maintains a five year Primary Road Capital Improvement Plan. KATS maintains a four year Transportation Improvement Plan (TIP). Currently we are working with the KATS 2014 – 2017 TIP.

16. What is the current rate of usage of roads and their right of ways by various classes of motorized and non-motorized users?

Currently, these non-motorized traffic counts are not available. Western Michigan University is, however, working with a team of university researchers to develop a Transportation Research Center. According to a WMU news release dated 11/08/2013, “The center will focus on improving public transit systems and alternative transportation modes, providing better and safer pedestrian and bicycle networks and enhancing transportation accessibility for children, people with disabilities, older adults and lower-income populations.”

17. Review the following items drawn from the list of benefits of paved shoulders mentioned by AASHTO (see for example <http://www.walkable.org/assets/downloads/22%20Reasons%20for%20Paved%20Shoulders.pdf>) and quantify those that can be quantified:
- a) what is the lifespan (or other fair measure, such as the length of time between major repaving projects, etc.) of a road with four foot paved shoulders, vs. roads without paved shoulders?
  - b) what are typical required annual costs to mow the shoulders or otherwise maintain a mile of road without shoulders, vs. the comparable annual required costs to maintain a mile of road with four foot shoulders?

Road projects with a paved shoulder will perform better than roads without a paved shoulder due to the edge support provided by the shoulder. The cost of mowing would be the same regardless of paved shoulder width due to the fact that KCRC would mow at minimum one pass.

18. What is the percentage of the various funding sources for roads within the KATS KAUB?

KATS may list the funding sources and percentages.

19. If it can be assumed for the sake of a hypothetical example that on some projects, the percent of a project’s budget allocated to non-motorized is 2%, and assuming that 1% of the project budget is already “funded” through the existing tax allocation, to what extent would the local funding entity need to “make up the difference” by reducing necessary pressing maintenance needs, such as pothole repair and chip-sealing? Where would the money come from, in this hypothetical example?

Yes, additional expenditures would impact other line items.

List [of questions] compiled and reviewed by:

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Paul Selden, editor

###

[Editor: We sincerely thank Tom Hohm and KCRC for the time and effort it took to prepare these answers.]

Appendix D  
**Fact-Based Resources Re. Complete Streets**  
Compiled by Paul Selden and Marc Elliott

Definition

“Complete Streets is a transportation policy and design approach that requires streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation. Complete Streets allow for safe travel by those walking, bicycling, driving automobiles, riding public transportation, or delivering goods.” [http://en.wikipedia.org/wiki/Complete\\_streets](http://en.wikipedia.org/wiki/Complete_streets)

**2012-2017 Michigan Tourism Strategic Plan (page 3)** – Michigan State University

[http://tourismplan.anr.msu.edu/docs/Progress\\_2013-14.pdf](http://tourismplan.anr.msu.edu/docs/Progress_2013-14.pdf)

States bike tourism has been identified as one of most prevalent current/emerging niches in Michigan.

**America needs Complete Streets** – ITE Journal

<http://www.walklive.org/wp-content/uploads/2011/04/ITE-Complete-Streets-Article-April-2011-Burden-Litman.pdf>

“An aging population; rising fuel costs; congestion, health, and environmental concerns; and changing consumer preferences are all increasing demand for walking, cycling, and public transit.. These trends indicate that an integrated multimodal transportation system is required if we are to meet future travel demands.” [footnote numbering omitted in quoted material]

**Complete Streets For All Travelers** - National Association of Realtors

<http://www.realtor.org/articles/complete-streets-for-all-travelers>

Among other findings, “preliminary results show that each additional point on the Walk Score scale correlates with increased housing values on the order of \$1,000 or more, depending on the regional market.”

**The Economic Benefits of Bicycling** – MDOT

[http://www.michigan.gov/mdot/0,4616,7-151-9615\\_11223\\_64797\\_69435---00.html](http://www.michigan.gov/mdot/0,4616,7-151-9615_11223_64797_69435---00.html)

“This Community and Economic Benefits of Bicycling in Michigan report ... finds that bicycling provides an estimated \$668 million per year in economic benefit to Michigan's economy, including employment, retail revenue, tourism expenditure, and increased health and productivity.”

**Estimating the Costs of Unintentional (Motor Vehicle) Injuries** – National Safety Council

[http://www.nsc.org/news\\_resources/injury\\_and\\_death\\_statistics/Pages/EstimatingtheCostsofUnintentionalInjuries.aspx](http://www.nsc.org/news_resources/injury_and_death_statistics/Pages/EstimatingtheCostsofUnintentionalInjuries.aspx)

From the section entitled Costs of Motor Vehicle Injuries: Average Economic Cost per Death, Injury, or Crash, 2012 -- Death \$1,410,000; Nonfatal Disabling Injury \$78,900; Property Damage Crash (including nondisabling injuries) \$8,900

**Evaluation of the Safety Benefits of Paved Shoulders** – Center for Transportation Research and Education

<http://www.ite.org/meetings/2011TC/Evaluation%20of%20the%20Safety%20Benefits%20of%20Paved%20Shoulders%20-%20Shauna%20Hallmark.pdf>

Extensive study of crash data found “effect due to treatment is 8.9% immediately after implementation of shoulders; then crashes decrease at a higher rate than segments with no paved shoulders; at 10 years, decrease is 15.9%.”

**(Michigan) State Transportation Commission Policy on Complete Streets** – Michigan

Department of Transportation

[http://www.michigan.gov/documents/mdot/MDOT\\_CS\\_Policy\\_390790\\_7.pdf](http://www.michigan.gov/documents/mdot/MDOT_CS_Policy_390790_7.pdf)

“Public Act 135 of 2010 requires the development of a complete streets policy to promote safe and efficient travel for all legal users of the transportation network under the jurisdiction of the Michigan Department of Transportation (MDOT).”

**Reasons for Highway Shoulders** – Oregon Department of Transportation

<http://www.walkable.org/assets/downloads/22%20Reasons%20for%20Paved%20Shoulders.pdf>

Benefits of paved shoulders for various users drawn from AASHTO.

**Safety Benefits of Paved Shoulders** – Midwest Transportation Consortium

[http://www.intrans.iastate.edu/reports/updated\\_paved\\_shoulders\\_w\\_cvr1.pdf](http://www.intrans.iastate.edu/reports/updated_paved_shoulders_w_cvr1.pdf)

“Single vehicle run-off-road (SVROR) crashes are the largest type of fatal passenger vehicle crash in the US (NCHRP 500 2003). In Iowa, ROR crashes accounted for 36% of rural crashes and 9% of total crashes in 2006. Run-off-road crashes accounted for more than 61.8% of rural fatal crashes and 32.6% of total fatal crashes in Iowa in 2006. ... At 10 years, sites with paved shoulders have 13.5% fewer ROR crashes than control sites. ... At 10 years, SVROR crashes are 16.4% lower for sections with paved shoulders than for sites with no treatment.”

**Safety Benefits of Walkways, Sidewalks, and Paved Shoulders** - FHWA Safety Program

[http://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/walkways\\_trifold/](http://safety.fhwa.dot.gov/ped_bike/tools_solve/walkways_trifold/)

Extensive statistics; references for data cited. Sample:

“Paved shoulders provide numerous safety benefits for motorists and pedestrians. Installing or widening paved shoulders has the following benefits:

- Reduces numerous crash types including the following:
  - Head on crashes (15%–75% reported reduction)
  - Sideswipe crashes (15%–41%)
  - Fixed object crashes (29%–49%)
  - Pedestrian (walking along roadway) crashes (71%)”

**Surprise! People 60-79 Are Leading the Bike Boom** – Streetsblog USA

<http://usa.streetsblog.org/2014/06/20/surprise-people-aged-60-79-are-leading-the-biking-boom/>

“...the rise in biking among people ages 60-79 accounted for 37 percent of the total net nationwide increase in bike trips. ... Seniors that live in walkable, bikeable communities without cars will enjoy a much higher standard of living than those that live in communities where cars are a necessity for basic existence.”

**Time of Return Calculation Spreadsheet** – Michigan Department of Transportation

[http://www.michigan.gov/mdot/0,4616,7-151-9625\\_25885\\_40552---,00.html](http://www.michigan.gov/mdot/0,4616,7-151-9625_25885_40552---,00.html)

States a crash reduction factor of “5% per foot widened each side” for widened shoulders; 85% pedestrian crash reduction factor for “Sidewalk for Pedestrians;” 50% bicycle crash reduction factor for “Bicycle Lanes.”

**Traveler Response to Transportation System Changes, Pedestrian and Bicycle Facilities** – Transportation Research Board

[http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp\\_rpt\\_95c16.pdf](http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_95c16.pdf)

“The U.S. Department of Transportation has declared that walking and bicycling should be considered ‘as equals with other transportation modes’ and adopted ‘complete streets’ principles” (p. 16-1). “[T]he goals and objectives for pedestrian and bicycle facilities are very diverse. The corresponding diversity of associated benefits leads to a situation where benefit analysis based on one objective alone, such as energy conservation, will lead to a severe understatement of advantage to the public welfare (p.16-4). [Please see, for example, the slideshow at <http://www.trb.org/Main/Blurbs/167122.aspx>]