**Sustainability
Action
©Network**

**Local Solutions
for Transition to
a Sustainable
Economy**

P.O. Box 1064, Lawrence KS 66044
a Kansas 501(C)(3) not-for-profit

Bryan Culver, ranking member   5 October 2017
T2040 Steering Committee
P.O. Box 708
Lawrence, KS 66044

re: amendments to Draft T2040, Goals, Objectives and Performance Measures

Mr. Culver:
I want to address bicycle transportation aspects of the T2040 Metropolitan
Transportation Plan. Since the adoption of the 2013 Update of the T2040 Plan,
bicycle transportation concerns have become high profile, and increased funding has
gained greater support. Yet the current draft of the T2040 Plan seems to be
following the five-year old template, without updated bicycle categories.

The foremost question for the City Commission and the Transportation Commission
has become "What criteria and matrix can be used to set funding priorities?" As you
know, the Metropolitan Transportation Plan is one of the main tools to help answer
that question, for any mode of transportation. And the section of the Plan for Goals,
Objectives and Performance Measures is where those questions are vetted.

Therefore, I have some additional performance measures to propose that address
the following: percentages of the bicycle network that are safe and protected
bikeways, user access to safe and protected bikeways, degree of the bikeway
network reliability, and percentages of "good" or "poor" pavement for safe and
protected bikeways. These amendments are in the attached document.

In March of this year, the Transportation Planners requested input from
Sustainability Action, and I provided answers to a list of interview questions. One
question was "How do we know when our transportation systems are working?
What factors would you use to evaluate our system?" In short, I answered that
bicycle priorities should be guided by origin-destination studies, level of service
evaluation, and a functional conditions index. These are addressed to a degree in
the T2040 amendments that I am proposing herein. Please give them due
consideration.

Thank you,
Michael Almon
Bicycle and Alternate Transportation Chair

Theme:	Access and Choices
Goal:	Enhance transportation options and choices for improved system performance
Objective:	1.a Improve regional connectivity (urban/rural) of all modes of the transportation networks
Measure #:	1.a.1
Measure:	Percentage of people who have access within a ¼ mile to the bikeway network (by City/County/EJ)
Required Federal PM:	No
Data Source:	MPO - 2015 Population Estimate and Bikeway Network
Trend:	Baseline

	2015 Population Estimate	Population Estimate With Bike Network Access	%
Lawrence	95,358	83,425	87%
EJ Zone	50,627	44,856	89%
Eudora	6,379	2,145	34%
Baldwin City	4,677	796	17%
Lecompton	638	-	0%
Total	157,679	131,222	83%

(suggested performance measure by Almon, Sustainability Action Network)

Theme:	Access and Choices
Goal:	Enhance transportation options and choices for improved system performance
Objective:	1.a Improve regional connectivity (urban/rural) of all modes of the transportation networks
Measure #:	1.a.4
Measure:	Percentage of people who have access within a ¼ mile to Bike Lanes or Shared Use Paths (by City/County/EJ)
Required Federal PM:	No
Data Source:	MPO – Lawrence Existing and Proposed Bikeways Map
Trend:	Baseline

Theme:	Access and Choices
Goal:	Enhance transportation options and choices for improved system performance
Objective:	1.a Improve regional connectivity (urban/rural) of all modes of the transportation networks
Measure #:	1.a.2
Measure:	Percentage of public streets with no sidewalks on either side (by City/EJ)
Required Federal PM:	No
Data Source:	MPO - Pedestrian Plan
Trend:	Baseline

	Missing Sidewalk on Both Sides of Streets	
	Miles	%
Lawrence	68.4	18%
EJ Zone	48.5	26%
Eudora	25.6	59%
Baldwin City	25.3	62%
Lecompton	3.0	33%

Source: MPO - Data as of - Lawrence - 2017, Eudora - 2014,
Baldwin City - 2014, Lecompton - 2015

(suggested performance measure by Almon, Sustainability Action Network)

Theme:	Access and Choices
Goal:	Enhance transportation options and choices for improved system performance
Objective:	1.a Improve regional connectivity (urban/rural) of all modes of the transportation networks
Measure #:	1.a.5
Measure:	Percentage of public non-NHS major roads (collector and above) with no bikeway on either side (by City/EJ)
Required Federal PM:	No
Data Source:	MPO – Lawrence Existing and Proposed Bikeways Map
Trend:	Baseline

Theme:	Mobility and Prosperity
Goal:	Efficient movement of people, goods, and freight
Objective:	2.a Implement strategies that address system performance
Measure #:	2.a.1
Measure:	Percent of the Person-Miles Traveled on the Interstate That Are Reliable
Required Federal PM:	Yes
Data Source:	National Performance Management Research Data Set (NPMRDS)
Trend:	

Theme:	Mobility and Prosperity
Goal:	Efficient movement of people, goods, and freight
Objective:	2.a Implement strategies that address system performance
Measure #:	2.a.2
Measure:	Percent of the Person-Miles Traveled on the Non-Interstate NHS That Are Reliable
Required Federal PM:	Yes
Data Source:	National Performance Management Research Data Set (NPMRDS)
Trend:	

In progress. May need to wait for KDOT to complete analysis rather than completing our own.

(suggested performance measure by Almon, Sustainability Action Network)

Theme:	Mobility and Prosperity
Goal:	Efficient movement of people, goods, and freight
Objective:	2.a Implement strategies that address system performance
Measure #:	2.a.3
Measure:	Percent of the Person-Miles Traveled on the Bikeway Network That Are Reliable
Required Federal PM:	No
Data Source:	MPO - Extrapolation From the Annual Bicycle and Pedestrian Counts
Trend:	Baseline

(suggested performance measure by Almon, Sustainability Action Network)

Theme:	Mobility and Prosperity
Goal:	Efficient movement of people, goods, and freight
Objective:	2.a Implement strategies that address system performance
Measure #:	2.a.4
Measure:	Percent of the Person-Miles Traveled by Bicycle on Sidewalks That Are Reliable
Required Federal PM:	No
Data Source:	MPO - Extrapolation From the Annual Bicycle and Pedestrian Counts
Trend:	Baseline

(suggested performance measure by Almon, Sustainability Action Network)

Theme:	Preservation, Safety, and Security
Goal:	Prioritize preservation, safety, and security of users on the transportation network
Objective:	3.e Preserve or enhance the pavement conditions of the bikeway network
Measure #:	3.e.1
Measure:	Percentage of bikeways that are protected lanes or physically separated from roadways (by City/EJ)
Required Federal PM:	No
Data Source:	MPO – Lawrence Existing and Proposed Bikeways Map
Trend:	Baseline

(suggested performance measure by Almon, Sustainability Action Network)

Theme:	Preservation, Safety, and Security
Goal:	Prioritize preservation, safety, and security of users on the transportation network
Objective:	3.e Preserve or enhance the pavement conditions of the bikeway network
Measure #:	3.e.2
Measure:	Percentage of pavements of the protected and separated bikeways in Good condition
Required Federal PM:	No
Data Source:	KDOT - IRI + Other Components
Trend:	Baseline

(suggested performance measure by Almon, Sustainability Action Network)

Theme:	Preservation, Safety, and Security
Goal:	Prioritize preservation, safety, and security of users on the transportation network
Objective:	3.e Preserve or enhance the pavement conditions of the bikeway network
Measure #:	3.e.3
Measure:	Percentage of pavements of the protected and separated bikeways in Poor condition
Required Federal PM:	No
Data Source:	KDOT - IRI + Other Components
Trend:	Baseline

1. **What transportation improvements have been most successful since 2012?**
   1) Allocation of $450,000 in Lawrence budget for bicycle-pedestrian projects.

   2) Roundabouts used in place of traffic signals or 4-way stops, at any opportunity.

   3) County road shoulder widening to 10 feet as defacto bicycle way (ie. N. 1800 Rd./Farmer's Turnpike, E. 600 Rd., N. 1200 Rd/Co. 458).

   4) Potential for Interdepartmental Coordinated Design Team for Lawrence (effectiveness remains to be seen).

   5) Design of Crescent Rd./Naismith Dr. intersection management.

   6) Baldwin Creek and Rockchalk all-weather, ADA segment of Lawrence Loop.

2. **What transportation improvements have been least successful since 2012?**
   1) 32nd St. alignment of the South Lawrence Trafficway.

   2) Design and proposal process blunder for Kasold, 15th St. to 8th St.

   3) Plat and construction of O'Connell Rd. to connect with E. 19th St.

   4) <u>Unprotected</u> bicycle lanes anywhere, especially on arterial streets.

   5) Excessive level of funds ($6M and up) targeted for a mere 5/8 mile of E. 9th St.

   6) Practice of using sharrows as if they make a street a bikeway, irrespective of these streets being inherently dangerous for bicyclists.

   7) Bob Billings, Kasold to Wakarusa, without a two-way bicycle track on north side.

3. **What top 3 transportation improvements must succeed in the next 5 Years?**
   1) Hire a Bicycle-Pedestrian Coordinator Engineer in Lawrence Public Works, in addition to the current MPO Transportation Planners.

   2) Concentrate available bicycle funds into one or two comprehensively designed, destination-to-destination, major bicycle <u>transportation</u> projects per budget year, rather than spreading it thinly over many ineffective areas such as sharrows or little green bike route signs.

   3) Increase by $500,000 per year the Lawrence bicycle transportation funding level, distinct from pedestrian funding which has many options (such as property owner responsibility, opt-in/opt-out sidewalk fee, issuing bonds, etc).

4. **How do we know when our transportation systems are working? What factors would you use to evaluate our system?**
   All communities use a selection of indices to evaluate conditions and progress in system operations. Lawrence makes considerable use of such objective measuring tools for motor vehicles, but is lacking such indices for bicycle transportation. Public Works uses the Pavement Condition Index to gage when to repair motorways. The Planning Department uses a traffic impact study to plan the capacity of intersections or streets. The Utilities Department uses operational metrics to schedule treatment plant and sewer improvements. In any case, it is critical to know the data points before <u>and</u> after installing a new capital project.

   To avoid guesswork, bicycle transportation design should employ at least three quantifiable and measurable protocols:

   > 1) An origin-destination study (O.D.S.), conducted on a five year cycle – to identify the community's main originators of bicycle transportation users, the multiple destinations traveled to, the existing number of cyclists traveling, and the level of cyclists latent demand if a safe and convenient bicycle lane-track-path were to be installed in the corridor.

   > 2) A level of service (L.O.S.) evaluation, conducted on a five year cycle – to correlate the data from an O.D.S. with the type and size of adjoining motorway, it's motorist speeds and

volume, and other such conditions. This data is to be used in the initial sizing and placement choice of type of bicycle lanes, and in re-evaluating the performance over time.

3) A Functional Conditions Index (F.C.I.), conducted annually – to maintain the bicycle lane according to a comprehensive evaluation and grading protocol, using multiple factors to score the lane from 0-100. The F.C.I. can use factors such as: condition of pavement, striping, barriers, signage, ramps, curbs, and presence of sand or debris, etc.

5. **What should be the Lawrence-Douglas County MPO's priorities for planning a regional comprehensive transportation system? Please put the following in priority order. A) To move people, B) To create jobs, C) To strengthen neighborhoods, D) To protect the environment? Why?**
   1 - __A_ Mobility, by all modes, is the purpose of transportation
   2 - __C_ Bikeable and walkable neighborhoods make for an equitable and livable city
   3 - __D_ Fossil fuel reduction from fewer single-occupancy cars reduces climate disruption
   4 - __B_ Achieving the first three will make Lawrence attractive for the job market

6. **How can we make it easier to make connections between different forms of transportation?**
   First of all, as with the three-tier motor vehicle network of local, collector, and arterial streets, the bicycle transportation network should be three-tier, though not mirroring the tiers for motorways.

   Tier #1 is the spine of the bicycle network, consisting of high-speed (20-25mph) through corridors of bicycle tracks or bicycle boulevards. Tier #2 are the bicycle-pedestrian nodes of the system, consisting of low-speed (5-15mph) sectors such as neighborhoods or activity centers (commercial, recreation, schools) where bicyclists intermingle with pedestrians and motor vehicles. Tier #3 are connector bikeways that link the nodes with the through corridors, by way of on-street protected bicycle lanes, or chicanes and curb extensions, or bicycle lanes to the inside of auto parking.

   To achieve inter-modal connections, transit routes will be the spine of the motor vehicle network. The bicycle network will feed into the transit network, typically at nodes or along connector bikeways. Pedestrians who congregate at the nodes will either walk to transit stops, or else make use of a bike share bicycle located at the nodes and key transit stops.

   Finally, autonomous vehicles (AVs) will be accessed at any bicycle-pedestrian node or designated AV rendezvous zone located on the motor vehicle network.

7. **How can we make it easier to commute in and out of the area?**
   1) Synchronize traffic signals on principal arterials.

   2) Replace traffic signals with roundabouts.

   3) City and county elected officials should work with MARC, Topeka MPO, and Wichita MPO to establish a commuter rail line on the BNSF tracks.

8. **How can we make it easier to travel within your city?**
   1) City elected officials should work with our Kansas Legislative Representatives to adopt a Kansas Statute appended to KSA 8-1560 that grants local authority to designate improvement districts (to be defined as all local streets) in which the minimum speed limit may be lowered below 20mph and down to 10mph.

   2) City elected officials should work with our Kansas Legislative Representatives to adopt a Kansas Statute that legalizes a "bike yield" law that allows bicyclists to roll slowly and cautiously through a stop sign, provided there is no conflict with motor vehicles or pedestrians.
   3) Strictly enforce the requirement that bicyclists display a front white light and a rear red light between dusk and dawn, that are visible for a minimum of 500 feet away.

4) Lawrence should purchase a street sweeper with a 6 foot sweeper path (such as the Sentinel) and dedicate it to clearing bicycle lanes of debris and obstacles.

5) Lawrence elected officials should adopt an ordinance that establishes a "yield hierarchy", by which bicycles yield to pedestrians, autos yield to bicycles, buses yield to autos, trucks yield to buses, and any vehicle that is higher on the scale always yields to any other lower on the scale.

9. **Where are you getting your information about the transportation system?**
Lawrence-Douglas County Metropolitan Planning Organization web page, Public Works and Planning Department web pages, various transportation planning documents, City staff, County staff, and community organizations.

10. **How can we best communicate with you?**
<paradigm@sunflower.com>

11. **Is there anything these questions have not covered today that you would like to tell us about the transportation system?**
To compliment Administrative Policy 117 by which a property owner is legally required to pay for sidewalk maintenance and repair, Lawrence elected officials should create a sidewalk repair fund that is capitalized by a City-wide fee collection, but from which property owners are entitled to either "opt-out" or "opt-in" of paying the fee. The policy would then establish that if a sidewalk on a given property is in need of repair, either the property owner would pay for the repair if they had opted out, or else the sidewalk repair fund would pay for the repair if the property owner had opted in.