Bicycle Pedestrian Advisory Committee (BPAC) Meeting Summary

Wednesday, July 10, 2024 – 1:30 PM

Members/Alternates & Visitors in Attendance

Andie Lynch, WSP
Andy Fry, WSP
Art Gough, citizen
Bailey Waters, City of Kansas City, MO
Brett McCubbin, City of Shawnee
Bryce Shields, KCATA
Chad Thompson, Lamp Rynearson
Chuck Soules, City of Smithville
Eric Rogers, Bike Walk KC
Jan Faidley, City of Roland Park
Juan Yin, MoDOT
Karry Rood, City of Leawood PD
Katie Jardieu, MoDOT
Krystal Jolly, MoDOT
Leslie Herring, City of Westwood (KS co-chair)
Michael Kelley, Bike Walk KC
Nick Ward Bopp, Johnson County Parks + Rec
Noel Bennion, City of Riverside
Randy Gorton, BHC
Ron McLinden, citizen
Sherri McIntyre, City of Liberty
Steve Rhoades, Vireo
Ted Smith, Platte County
Wes Minder, Platte County

MARC staff in attendance

Beth Dawson
Bobby Evans
Joshua Rubio
Karen Clawson
Lukas Yanni
Nordia Epps
Patrick Trouba
Ron Achelpohl

1) **Welcome and Introductions**
2) **<u>VOTE</u>: Approval of the May 8 meeting summary**
   a) Ron McLinden requested that his comments be struck from the summary. Chair motions to approve the summary as amended.
   b) Chair calls for any nay votes to the summary as amended.
   c) No nay votes, summary is approved.
3) **<u>Presentation</u>: MARC Bike Month campaign: post-campaign engagement and statistics (MARC)**

   Transportation Planner Patrick Trouba presented on the Active Transportation program's spring Bike Month campaign, which included an ad campaign and a group bike ride. Mr. Trouba compared metrics from the 2023 and 2024 campaigns. *See attached slides for more details.*

4) **<u>Presentation</u>: MTP update – prioritization of submitted projects and financial capacity analysis (MARC)**

   Director of Transportation & Environment Ron Achelpohl presented on the progress of the update to the metropolitan transportation plan, Connected KC 2050. The presentation covered progress in updating the plan, updates to the financial forecast, next steps in project prioritization, and findings from a survey that MARC commissioned. *See attached slides for more details.*

5) **<u>Presentation</u>: Bicycle/pedestrian changes to the Manual of Uniform Traffic Control Devices (MUTCD) (Bailey Waters, KCMO)**

   Chief Mobility Officer Bailey Waters presented on updates to the MUTCD that affect cyclists and pedestrians. Topics Ms. Waters covered included an introduction to the MUTCD, the manual's changes to how it instructs engineers to consider automobile speed, and approvals to certain traffic control devices and signage. *See attached slides for more details.*

6) **Roundtable updates**
   a) Patrick Trouba (MARC): for BPAC, meeting summaries have been quasi-transcripts, and this has been labor-intensive for MARC staff. Going forward, summaries will have less discussion detail and include meeting slides for more detail.
   b) Chuck Soules (Smithville): Smithville streetscape project has been bid and will be awarded next Tuesday. Commercial Street sidewalk project is also out; wanted to thank Katie Jardieu for being a big help.
   c) Jan Faidley (Roeland Park): the next discussion on bike lanes on Mission Rd. will be the first Monday meeting in August. Due to citizen pushback, council members were considering allowing parking overnight in the bike lanes. This is not recommended by our traffic engineer. Would help to have the bike community or anyone who has experience on that route make a statement at that meeting.
   d) Bailey Waters (KCMO): construction to start July 22 on Emanual Cleaver Blvd. which will result in separated bike lanes using concrete separation (not delineators). Also, funding through the Kansas City Physical Activity Plan will provide pre- and post- counts on the Mission Rd. project and the Cleaver Blvd. project. Bike Walk KC will help with this project and we'll share the reporting.
   e) Leslie Herring (Westwood): Bailey Waters and Michael Kelley did a great job in an interview with Steve Kraske on his Up to Date show. They talked about Complete Streets and the great work that KCMO is doing. Also, in Westwood, wrapped up the Rainbow PSP study (Rainbow from Shawnee Mission Pkwy. to I-35). The engineers recommended a lane reduction and a speed reduction and additional pedestrian improvements and separated bike lanes from Shawnee Mission Pkwy. to 39th St. Westwood has consulted with all four jurisdictions (Westwood Hills, Mission Woods, Westwood and the UG) and all the locals are supportive of the findings and recommendations from the report. Now working with KU Health Systems to make sure they are comfortable with the plan and aggressive timeline. Excited to do a demonstration project.
   f) Ron McLinden: My concern is to reduce the need for, and speed of, motorized travel.

Bicycle/Pedestrian Advisory Committee

July 10, 2024

Please enter your name and organization in the chat window so that we may have an accurate record of attendance

Agenda

1) Welcome
2) VOTE: May 8, 2024 meeting summary
3) MARC Bike Month Campaign: post-campaign look
4) MTP update – prioritization of submitted projects and financial capacity analysis
5) MUTCD – Bicycle-pedestrian changes
6) Roundtable updates

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VOTE: Approve the May 8 Meeting Summary

2

2024 Bike Month Campaign

BPAC | July 2024

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How does this program happen?

- Federal CMAQ funding is awarded from both KS and MO for MARC's active transportation program
- This funding is used for promotional campaigns in the spring and fall for cycling and walking

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This year's theme

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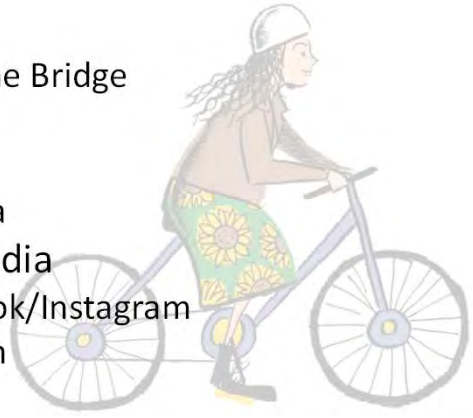
Ad types

Types of advertising

- Outdoor
  - Billboards
  - Ads on transit buses
- Online
  - KC Star – email blasts
  - KC Today – email blasts
  - KCUR – ads on page
- Audio
  - KTBG the Bridge
  - KCUR
  - Spotify
  - Pandora
- Social Media
  - Facebook/Instagram
  - LinkedIn



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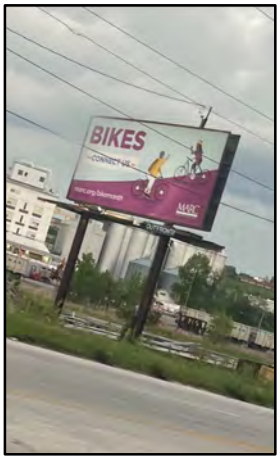
Ads in the wild:



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Webpage

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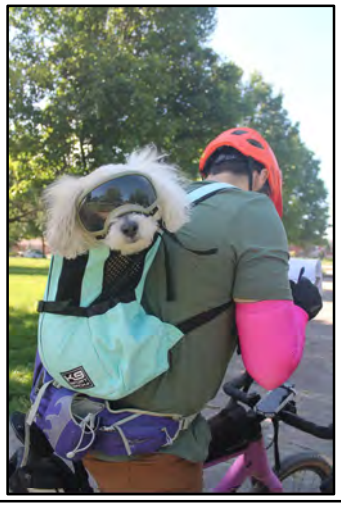
Community ride



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Spending and metrics

Spending	2023	2024
Outdoor	$6,500	$9,526
Audio	$4,506	$5,207
Online	$9,428	$7,050
Social Media	$3,880	$3,050
Total	$24,314	$24,833

Engagement	Cost per mil	Web page hits
2023	$3.82	7,746
2024	$4.33	6,623

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MARC
MID-AMERICA REGIONAL COUNCIL

Questions and Discussion

What would you like to see out of a bike month campaign next year?

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PRESENTATION AGENDA

- Plan update timeline
- Completed work
- Financial analysis & forecast
- Project prioritization
- Next steps

CONNECTEDKC 2050 UPDATE
REGIONAL TRANSPORTATION PLAN

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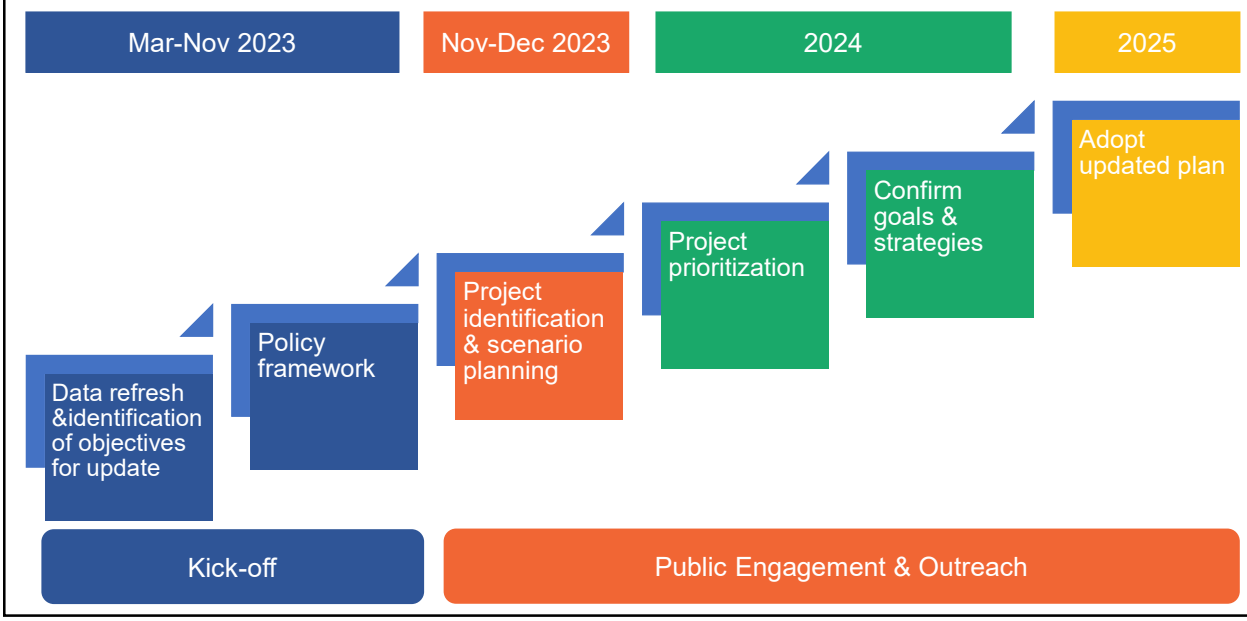
PLAN UPDATE TIMELINE



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Completed Work

CKC2050 Update Kick Off

- Data refresh
- Identification of objectives for update
- Policy framework overview and evaluation

Scenario Planning

- **Land use scenarios** tested w/ MARC models
  - Dispersed vs compact growth
  - High vs. low growth
- Results shared publicly in Fall ’23 outreach & engagement efforts

https://connectedkc.org/2025-update/

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Completed Work

Public outreach and engagement

- **Introductory video** introducing plan update
- **Pop-up events** in each MARC county: Late Oct – mid Nov 2023
- **Public open house**: November 16
- **Online meeting**: Posted online

- **2 Surveys:**
  - **Self-select online survey** distributed by MARC
  - **Randomly selected**, statistically valid (ETC Institute)
- Speaker’s bureau (requested & targeted presentations)

https://connectedkc.org/2025-update/

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Completed Work

2024 MARC Long Range Transportation Plan Survey Results

- Conducted by ETC Institute
  Winter / Spring 2024

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Purpose

To assist in the update of local transportation plans that will guide investments through 2050

To objectively assess resident perceptions and opinions on regional transportation issues

To better understand community needs and what transportation investments should be used to respond

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Methodology

Survey Description

- 5-page survey made available in English and Spanish

Method of Administration

- By mail and online to a random sample of households in the 9-county metro area
- On average, each survey took approximately 17-18 minutes to complete

Sample Size

- 1,770 completed surveys

Margin of Error

- +/- 2.33% at the 95% level of confidence

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Prioritization Tiers

Tier 1: Very high priority, significantly increase emphasis

Tier 2: High priority, increase emphasis

Tier 3: Medium priority, maintain current emphasis

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Importance of Issues – Regional Needs

Tier 1

- Healthy Environment
- Road and bridge construction
- Affordable Housing

Tier 2

- Safety

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Importance of Issues – Regional Needs

Tier 3

- Jobs access via public transportation
- Housing Choice
- Walkable and bikeable communities
- Transportation choices
- Resilience
- Regional Travel Time
- Bikeways
- Freight truck travel time

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Priority of Transportation Strategies

Tier 1

- Nature-based solutions to reduce flooding
- High-demand area public transportation
- Address disadvantaged populations
- Improve travel safety through education, engineering
- Improve air quality

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Priority of Transportation Strategies

Tier 2

- Reduce pollution and greenhouse gases
- Connected trails & greenways
- Connected system – locally and internationally
- Accommodate all travelers
- Integrated solutions to achieve multiple goals
- Intelligent transportation systems
- Prepare communities for changing climate
- Improve weather event response
- Transportation hubs in key activity centers

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Priority of Transportation Strategies

Tier 3

- Alternative transportation options
- Innovative technologies
- Multi-modal movement of goods
- Reduce heat-absorbing infrastructure
- Encourage purchase of electric and no-emission vehicles

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Funding Priorities

Tier 1

- Maintenance/rehab of existing highway system

Tier 2

- Congestion management projects
- Transportation for older adults and disabled
- Rebuild roadways for growth and local needs
- Bike paths, bike lanes, and sidewalks
- Enhance system safety

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Funding Priorities

Tier 3

- Bus transit service
- New public transit infrastructure
- Help infrastructure hold up to extreme weather
- New roadways
- Electric vehicle charging stations
- Technology systems (KC Scout, traffic signal coordination)
- Incorporate nature-based solutions
- Driving along alternatives: carpool lanes, bus lanes, park & ride
- EVs for city/county fleets
- Public Electric (E)-bike share

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New Funding Sources

- 61% support regional or county-based transit funding
- 57% oppose road user charges

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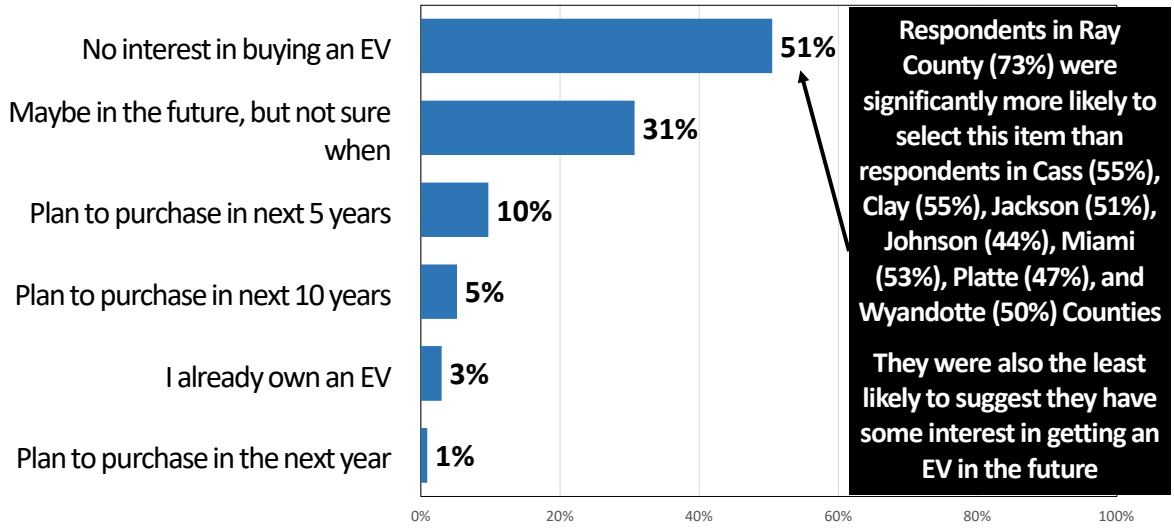
Q6. How Likely Are You To Purchase An Electric Vehicle?

by percentage of respondents (excluding not provided)



Regional differences in behaviors and perceptions are not always common, but in this instance one county stands alone

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Barriers to EV Purchase

Top 3 Barriers

- Vehicle purchase price
- Insufficient driving range
- Long charging times

Lowest Barrier

- Education/Awareness: Don't know enough about EVs to buy one

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Summary

- Nearly all respondents support the following:
  - Healthy environment
  - Road and bridge maintenance
  - Increase safety on all types of transportation in the region
- EV conversion/usage was met with skepticism
  - Top barriers: purchase price, insufficient driving range, and long charge times
  - Half in the region expressed interest in purchasing an EV while half suggest they have no interest

While the results suggest various priorities and improvements there are some common themes

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Summary

- Most believe we should prioritize or support projects and programs that address the needs of disadvantaged populations
- Most respondents support regional or county by county investments in public transportation to expand options across the region

While the results suggest various priorities and improvements there are some common themes

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Connected KC 2050 - Update

Financial Analysis & Forecast

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Financial Analysis & Forecast

1. Financial Constraint
   - Revenues reasonably expected
2. Coordinated with our planning partners
   - KDOT, MoDOT, & KCATA
3. Transparency
4. State revenues are unaltered by MARC
5. Account for taking care of system

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Financial Analysis & Forecast

Assumptions:

1. Revenues
   a) Conservative revenue growth rate
   b) Continued Federal and State transportation plans

2. Expenditures
   a) Operations & Maintenance
   b) Transportation Asset Management (TAM)

3. Transit
   a) Continued "No Fare" policy
   b) Loss of COVID relief
   c) Reduced Local funding

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Financial Analysis & Forecast

Sources:

1. Revenues
   a) Annual Census Of Governments
   b) National Transit Data Base (NTD)
   c) Coordination with States and transit providers
   d) Financial projections 30 -year vs 25 - year

2. Expenditures
   a) States' Transportation and Transit Asset Management Plans
   b) Operations and Maintenance projections

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Financial Analysis & Forecast

All Sources
Revenues – Expenditure = $$$ for Projects
(billions)

Total Revenues	KS	MO	Total
Federal revenues	$ 3.45	$ 8.38	$ 11.83
State revenues	$ 4.97	$ 6.86	$ 11.83
Local revenues	$ 14.50	$ 19.21	$ 33.70
Subtotal	$ 22.91	$ 34.45	$ 57.36
Expenditures			
Operations & Maintenance	$ 14.95	$ 22.84	$ 37.80
Asset Management	$ 2.05	$ 5.76	$ 7.81
Subtotal	$ 17.01	$ 28.60	45.61
Balance (available for MTP projects)	**$ 5.91**	**$ 5.85**	**$ 11.75**

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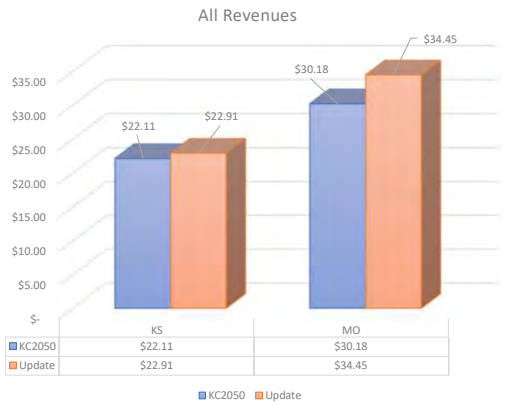
Financial Analysis & Forecast

Regional Revenues All Modes
Current vs Update
(billions)

All Revenues	KS	MO	Total
CKC2050	$ 22.11	$ 30.18	$ 52.29
Update	$ 22.91	$ 34.45	$ 57.36
Difference	$ 0.80	$ 4.27	$ 5.07



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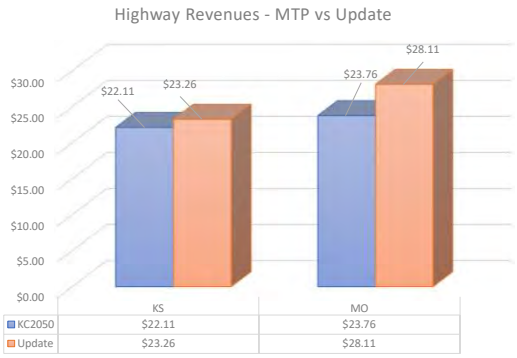
Financial Analysis & Forecast

Regional – Roadway Revenues:
Current MTP vs Update

Revenues	CKC2050	Update	Difference
KS	$22.11	$23.26	$1.15
MO	$23.76	$28.11	$4.35
Total	**$45.87**	**$51.37**	$5.50



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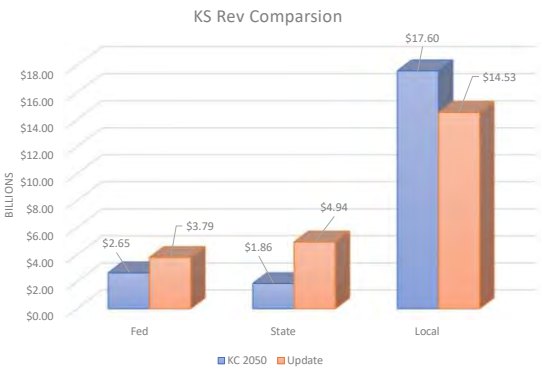
Financial Analysis & Forecast

Kansas – Roadway Revenues:
Current MTP vs Update

Funding Source	CKC 2050	Update	Difference
Fed	$2.65	$3.79	$1.14
State	$1.86	$4.94	$3.08
Local	$17.60	$14.53	($3.07)
Total	**$22.11**	**$23.26**	$1.15



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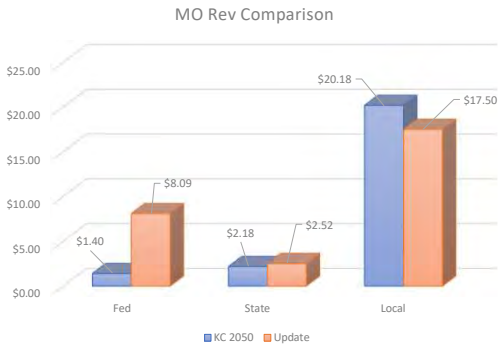
Financial Analysis & Forecast

Missouri – Roadway Revenues:
Current MTP vs Update

Funding Source MO	CKC 2050	Update	Difference
Fed	$1.40	$8.09	$6.69
State	$2.18	$2.52	$0.34
Local	$20.18	$17.50	($2.68)
Total	**$23.76**	**$28.11**	$4.35



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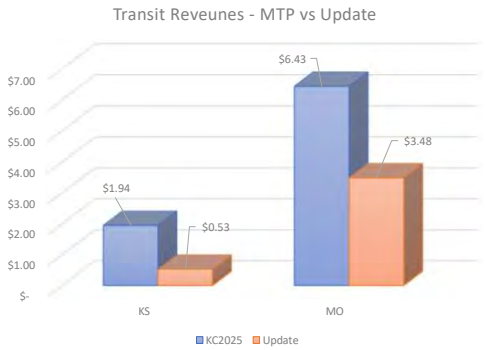
Financial Analysis & Forecast

Transit Revenues: Current MTP vs Update (billions)

Revenues	KS	MO	Total
CKC 2050	$ 1.94	$ 6.43	$ 8.37
Update	$ 0.53	$ 3.48	$ 4.01
Difference	**$ -1.41**	**$ -2.95**	**$ -4.36**



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Financial Analysis & Forecast

Summary:

- Local system funding balance available for CKC2050 projects
  - $ 3.38 b in Kansas
  - $ 2.06 b in Missouri
- State system funding balance available for CKC2050 projects
  - $ 2.71 b in Kansas
  - $ 4.76 b in Missouri
- Transit system funding balance available for CKC2050 projects
  - $ (0.18) b in Kansas
  - $ (0.98) b in Missouri

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Connected KC 2050 - Update

Project Prioritization

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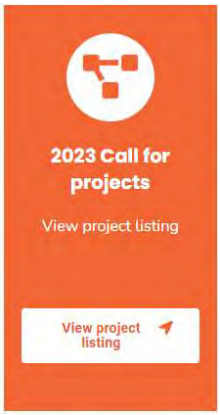
PROJECT PRIORITIZATION

Project Prioritization

- Plan must include list of regionally significant projects
- Call for CKC2050 projects held in late 2023
- Inclusion in the plan is a requirement in some cases and a boost in others for future funding opportunities

- Project listing is updated every 5 years, and
- By amendments in interim period
  - Total of 8 amendments since 2020



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PROJECT PRIORITIZATION

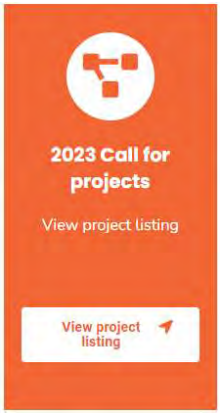
Project Prioritization

Call for projects outcomes

- 456 projects in current MTP
- 259 resubmitted for plan update
  - 197 current MTP projects not re-submitted.
    - MARC staff consulting with sponsor agencies
    - Many of these projects to stay in MTP

- 132 NEW projects submitted and scored.

- All submitted projects available for public review and comment



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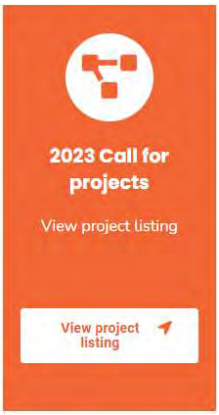
PROJECT PRIORITIZATION

Project Prioritization

- All projects to be considered for listing in the MTP sorted by:
  - KS local and state system projects
  - MO local and state system projects and
  - Transit system projects
  - Includes: re-submitted and new projects
- Projects to be categorized as “high”, “medium” and “low” priority projects
  - Similar methodology to be used as original plan, 2019
  - Same project scores breaks as used in 2019



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PROJECT PRIORITIZATION

Project Prioritization

- **Next steps**
  - Project lists shared with planning modal committees (July ‘24)
  - Survey/Feedback form for feedback on process/project categorization (July ’24)
  - Development of Draft Financially Constrained project listing (August ’24)
  - Draft financially constrained project listing shared with modal committees (September ’24)

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Connected KC 2050 - Update

Next Steps

CONNECTEDKC 2050 UPDATE
REGIONAL TRANSPORTATION PLAN

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NEXT STEPS

Next steps

- Project prioritization (3Q of 2024)
- Development of financially constrained & illustrative project lists (3Q of 2024)
- Development of land use, population household and employment forecasts (1Q ~ 4Q 2024)
- Travel demand modeling, EJ analysis (3Q ~ 4Q 2024)
- Public outreach & engagement (4Q 2024)
  - In person and online public meeting(s)
  - Targeted stakeholder group discussions
- Final plan write up (1Q ~ 2Q 2025)

CONNECTEDKC 2050 UPDATE
REGIONAL TRANSPORTATION PLAN

THANK YOU!

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CONNECTEDKC
2050
UPDATE
REGIONAL TRANSPORTATION PLAN
Plan Update
July 2024

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Public Works
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KANSAS CITY
MISSOURI

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KANSAS CITY MISSOURI

Public Works

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MUTCD updates

MARC BPAC

7-10-2024

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KANSAS CITY MISSOURI

Public Works

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Agenda

- What is the MUTCD?
- Background on MUTCD and National Committee
- Recent bike and pedestrian changes to MUTCD

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Public Works

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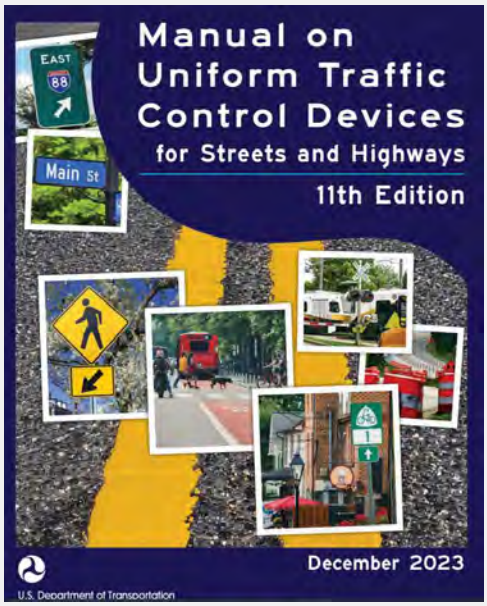
What is the MUTCD?

- Uniform national criteria for the use of traffic control devices that meets the needs and expectancy of road users on all streets, highways, pedestrian and bicycle facilities, and site roadways open to public travel
- Signs
- Signals
- Markings
- Channelizing devices



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MUTCD Background

- New edition released in December 2023
  - First update since 2009
  - By law, must be updated every four years going forward
- States have 2 years to adopt

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Engineering Judgement

Section 1A.04 Use of the MUTCD

Standard:

02 Where the content of this Manual requires a decision for implementation, such decisions shall be made by an engineer, or an individual under the supervision of an engineer, who has the appropriate levels of experience and expertise to make the traffic control device decision. Those decisions shall be made using engineering judgment or engineering study, as required by the MUTCD provision.

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Content thank you

Thank you to NACTO for providing most of this content.

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Items of interest

- Speed limits
- Crosswalk markings
- Sidewalk extensions
- Asphalt art
- Signals
- Transit Lanes
- Bicycle Facilities

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Speed Limits

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Speed limits

- Maximum (or minimum) **speed limits** are typically established by law.
- Speed zones are street sections that have a different speed limit than that established by statute. These are set with an *engineering study*.

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2B.21

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Standard:

06 Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study **shall consider the roadway context**.

Guidance:

07 Among the factors that should be considered when conducting an engineering study for establishing or reevaluating speed limits within speed zones are the following:

A. Roadway environment (such as roadside development, number and frequency of driveways and access points, and land use), functional classification, public transit volume and location or frequency of stops, parking practices, and pedestrian and bicycle facilities and activity;
B. Roadway characteristics (such as lane widths, shoulder condition, grade, alignment, median type, and sight distance);
C. Geographic context (such as an urban district, rural town center, non-urbanized rural area, or suburban area), and multi-modal trip generation;
D. Reported crash experience for at least a 12-month period;
E. Speed distribution of free-flowing vehicles including the pace, median (50th-percentile), and 85thprecentile speeds; and
F. A review of past speed studies to identify any trends in operating speeds.

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2B.21 continued

08 When the 85th-percentile speed is appreciably greater than the posted speed limit, and the roadway context does not support setting a higher speed limit, the engineering study should consider whether changes to geometric features, enforcement, and/or other speed-reduction countermeasures might improve compliance with the posted speed limit. A similar approach should be used if the results of past speed studies indicate that the 85th-percentile speed has consistently increased.

09 On urban and suburban arterials, and on rural arterials that serve as main streets through developed areas of communities, the 85th-percentile speed should not be used to set speed limits without consideration of all factors described in Paragraph 7 of this Section.

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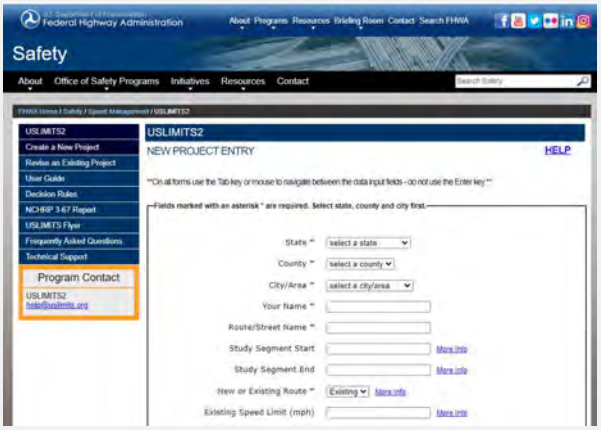
Speed limits resources

- NACTO's City Limits: Setting Safe Speed Limits on Urban Streets
- FHWA's US Limits 2
- More guidance coming from FHWA



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Crosswalk Markings

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Public works

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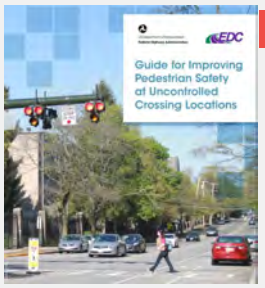
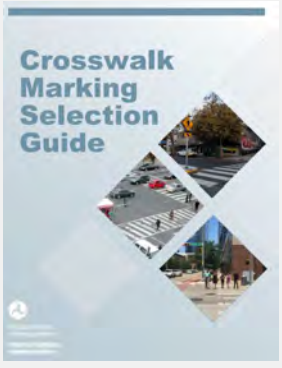
Crosswalk markings

- MUTCD is aligned with the FHWA STEP Guide
  - If the street is too fast, busy, or wide for a marked crosswalk alone, MUTCD supports making it slower, narrower, or raised.
- Many types of crosswalk markings are allowed
  - Recent FHWA guidance supports using higher-visibility crosswalks, provides guidance on which types to use





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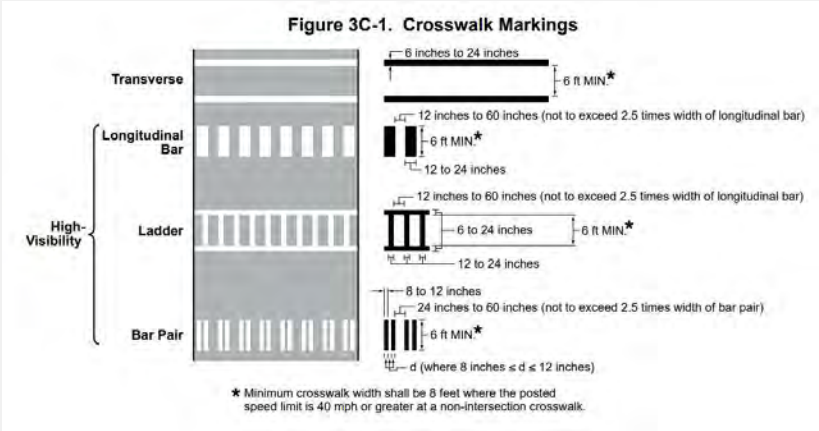
Crosswalk markings



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Sidewalk Extensions

New!

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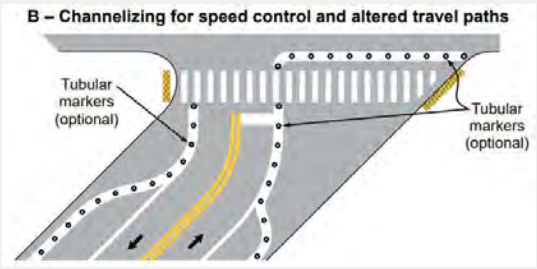
Sidewalk extensions



Note differences in lines, locations of detectable warning surface, crosswalk marking, and placement of tubular markers

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Asphalt Art

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Asphalt art is explicitly allowed, with some rules

05 Aesthetic surface treatments shall not interfere with traffic control devices.

06 Aesthetic surface treatments shall not be of a surface that can confuse pedestrians with vision disabilities that rely on tactile treatments or cues for navigation.

07 Colors used for aesthetic surface treatments shall be outside the chromaticity coordinates that define the ranges of acceptable colors for traffic control devices.

08 Patterns that constitute a purely aesthetic surface treatment shall be devoid of advertising and shall not contain elements of retroreflectivity.

09 Patterns that constitute a purely aesthetic surface treatment for the interior area of a crosswalk shall not be designed to encourage road users to remain in the crosswalk, engage or interact with the pattern, or otherwise inhibit users from crossing the street in a safe and efficient manner

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Adding asphalt art to your streets

- Asphalt art is not a traffic control device. It can be used both in the roadway (in an intersection) and outside of it (in a paint-and-post curb extension, on sidewalks)
- Setting local policies and standards in partnership with your disability community and others
- More information
  - Asphaltart.Bloomberg.org/faq

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Signals

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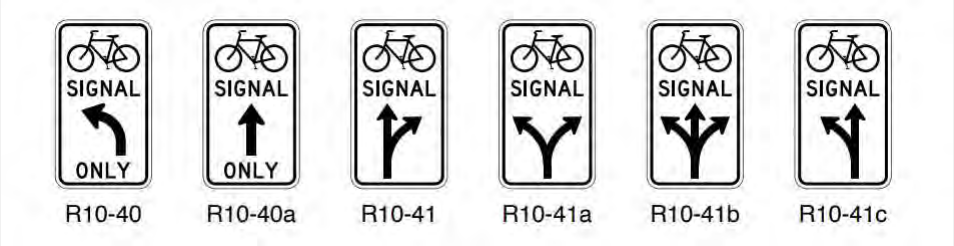
Signal challenges for pedestrian/bike

- No pedestrian network or bike network warrant for signals
- Bike signals are subject to many new restrictions



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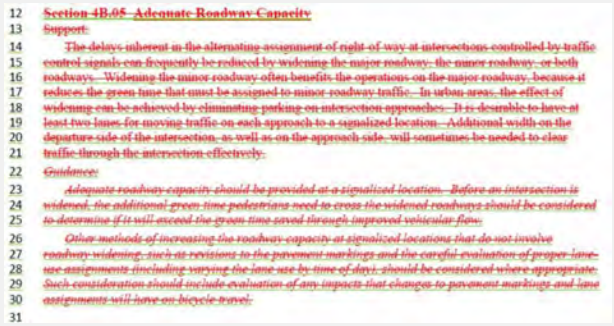
Signals & Roadway capacity

- OLD section 4B.05 Adequate Roadway Capacity
- Section was REMOVED from MUTCD
- Removes inappropriate geometric consideration



Section 4B.05 Adequate Roadway Capacity

Support:

The delays inherent in the alternating assignment of right-of-way at intersections controlled by traffic control signals can frequently be reduced by widening the major roadway, the minor roadway, or both roadways. Widening the minor roadway often benefits the operations on the major roadway, because it reduces the green time that must be assigned to minor roadway traffic. In urban areas, the effect of widening can be achieved by eliminating parking on intersection approaches. It is desirable to have at least two lanes for moving traffic on each approach to a signalized location. Additional width on the departure side of the intersection, as well as on the approach side, will sometimes be needed to clear traffic through the intersection effectively.

Guidance:

Adequate roadway capacity should be provided at a signalized location. Before an intersection is widened, the additional green time pedestrians need to cross the widened roadways should be considered to determine if it will exceed the green time saved through improved vehicular flow.

Other methods of increasing the roadway capacity at signalized locations that do not involve roadway widening, such as revisions to the pavement markings and the careful evaluation of proper lane-use assignments (including varying the lane use by time of day), should be considered where appropriate. Such consideration should include evaluation of any impacts that changes to pavement markings and lane assignments will have on bicycle travel.

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Signals – other notes

- Pedestrian volume warrant is slightly more flexible but still very high threshold
- Engineers can justify a signal that does not meet warrants
- Crash warrants are still reactive and does not distinguish between severity of crashes

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Transit Lanes

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Transit Lanes

- Red transit lanes are allowed
  - Section 3H.07 – Red-Colored Pavement for Public Transit Systems
- Transit signals have new restrictions
  - No triangle signal for change interval
  - Still no option to use red line for transit signal

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Bicycle Facilities

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Bicycle Facilities

- More definitions
- Separated Bike Lanes – NEW!
- Protected intersection/bend-out, bend-in
- Two-stage turn boxes and bike boxes
- New restrictions on bike signals
- Confusing sign requirements
- Still no marking bike lane to the right of a right turn lane/left of left turn lane

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Definitions

Bicycle Facilities—a general term denoting improvements and provisions that accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically defined for bicycle use.

Bicycle Lane—a portion of a roadway that has been designated for preferential or exclusive use by bicyclists. A typical bicycle lane is delineated from the adjacent general-purpose lane(s) by longitudinal pavement markings and bicycle lane symbol or word markings and, if used, signs. Other types of bicycle lanes include:

- (a) **Buffer-Separated Bicycle Lane**—a bicycle lane that is separated from the adjacent generalpurpose lane(s) by a pattern of standard longitudinal pavement markings that is wider than a normal or wide lane line marking.
- (b) **Counter-Flow Bicycle Lane**—a one-directional bicycle lane that provides a lawful path of travel for bicycles in the opposite direction from general traffic on a roadway that allows general traffic to travel in only one direction. Counter-flow bicycle lanes are designated by the traffic control devices used for other bicycle lanes.
- (c) **Separated Bicycle Lane**—an exclusive facility for bicyclists that is located within or directly adjacent to the roadway and that is physically separated from motor vehicle traffic with a vertical element. Separated bicycle lanes are differentiated from other bicycle lanes by a vertical element.

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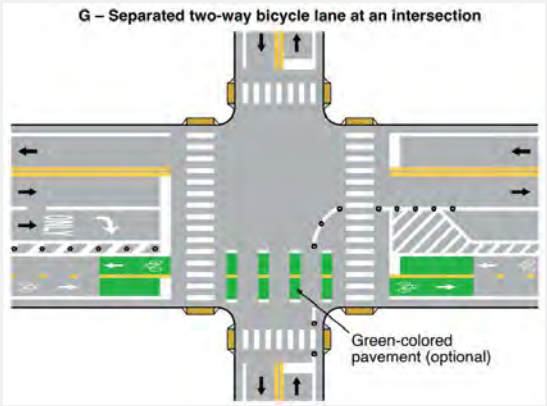
Bikes: Intersection Geometry

- Separated bike lane geometry is not restricted.
- Some means of vertical separation required to do this geometry without a separate signal phase.



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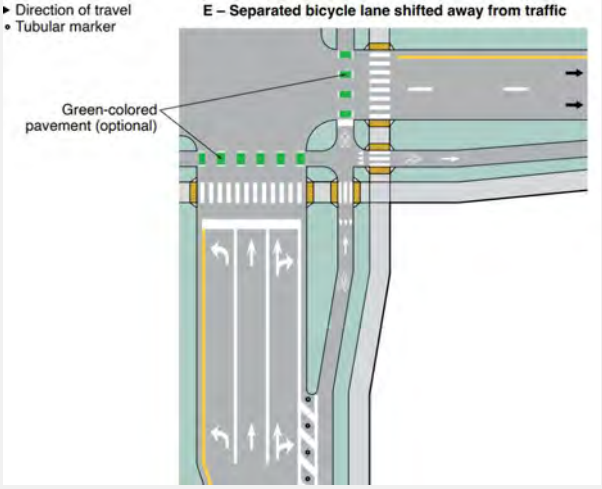
Intersection geometry for bikes

- Geometric decisions shouldn't be made based on this manual
- Bend-out geometry is shown in the guide



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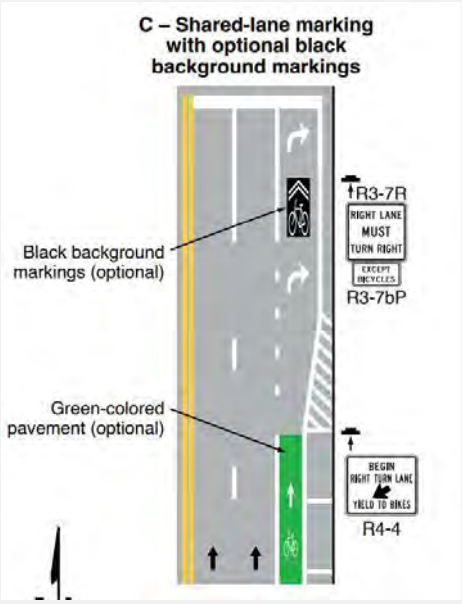
Bikes: Use of Green

- Solid green color OK in bike lanes
- At intersections, use dashes green for crossbikes
- Crossbikes over driveways can either be dashed or solid
- Green turn boxes and bike boxes OK
- No green-backed sharrows



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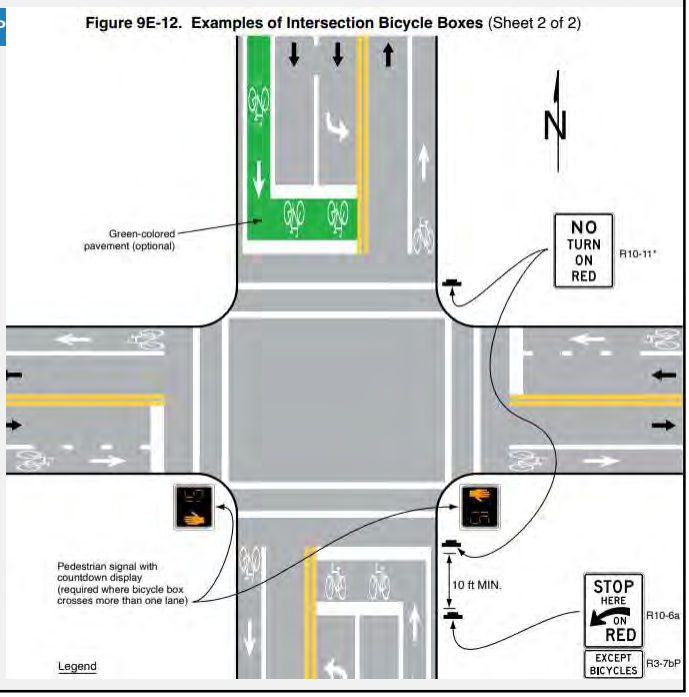
Bikes: Bike Boxes

- Can be green or not
- New sign details to pay attention to
- No right on red
- Bike box across multiple lanes requires ped countdown signal



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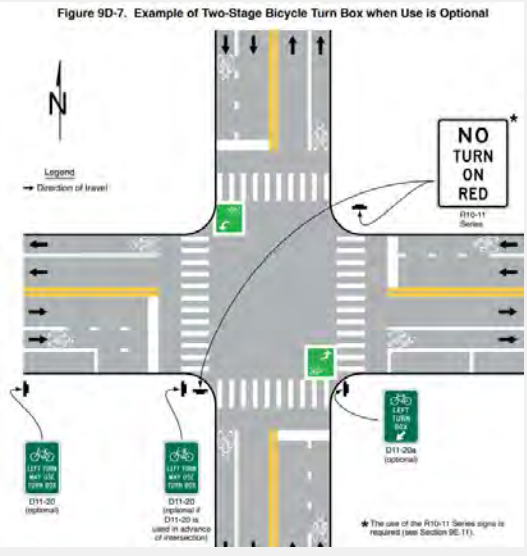
Bikes: Two-Stage Boxes

- Two-stage turn boxes are allowed
  - New signs needed in some cases
  - Use green guide signs unless bikes aren't allowed to turn from the motor vehicle lanes



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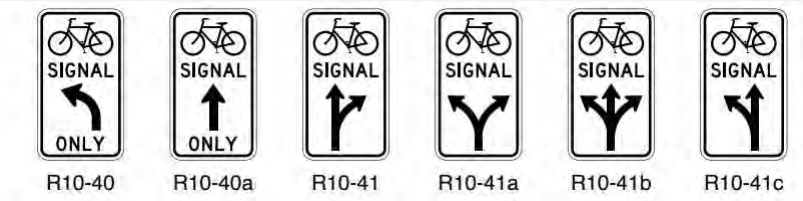
Bike Signals

- Shall not use with a Hybrid Beacon
- Shall not use where there are turn conflicts
- Leading Bike Intervals are explicitly permitted
- New, untested signs are required but not explained



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Contact Information

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Roundtable updates

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Adjournment

Next meeting: September 11, 2024

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