Public Information Meetings

MHKPT

Big Blue River 2nd Connection Cost-Benefit Analysis

RILEY COUNTY

POTTAWATOMIE COUNTY · KANSAS

benesch

City of Manhattan Kansas

Flint Hills MPO

Agenda

- Background
- Route Overviews
- Design Criteria
- Report Findings
- Next Steps
- Further information

Background

2009 **US-24 Corridor Management Plan**

- Addresses needs on Corridor (future 6-lanes)

2012 **Marlatt – Junietta Study**

- Multiple spur options from US-24 to Marlatt Ave
- New bridge
- $34 to $50 million

2017 **Bluetooth Study & TDM**

- Data projects limited usage of Junietta-Marlatt connection
- KDOT's focus is US-24

Background

Funding

Pottawatomie County · Kansas

City of Manhattan Kansas

Riley County

No State (KDOT) $

Engineering Study

benesch

Admin, Final Report, & Public Outreach

Flint Hills MPO

Note

This study **does not select a route to be built**, rather the analysis provides facts, figures, and pros & cons of each route.

Route Overviews

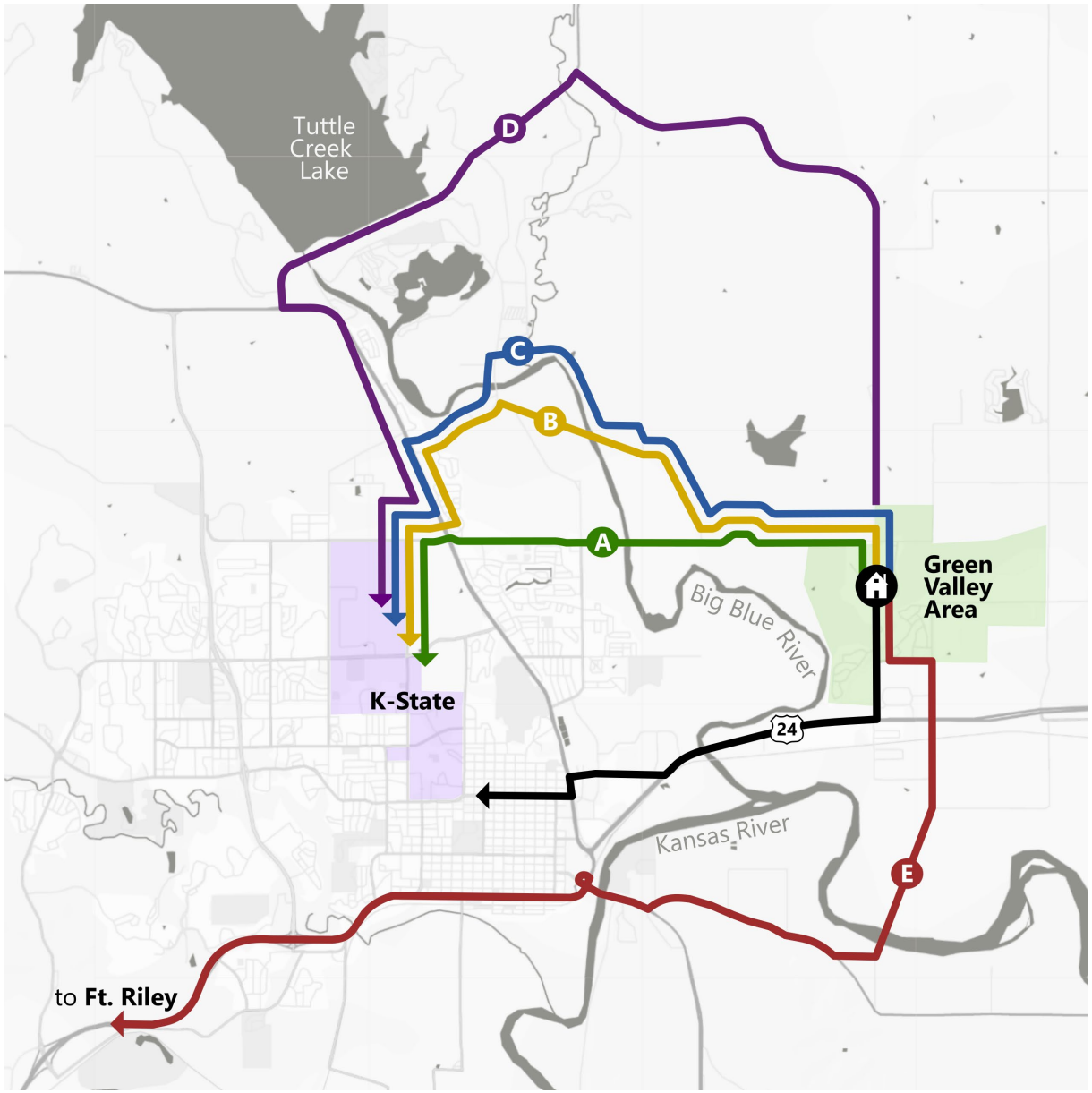
A

B

C

D

E



Route Overviews

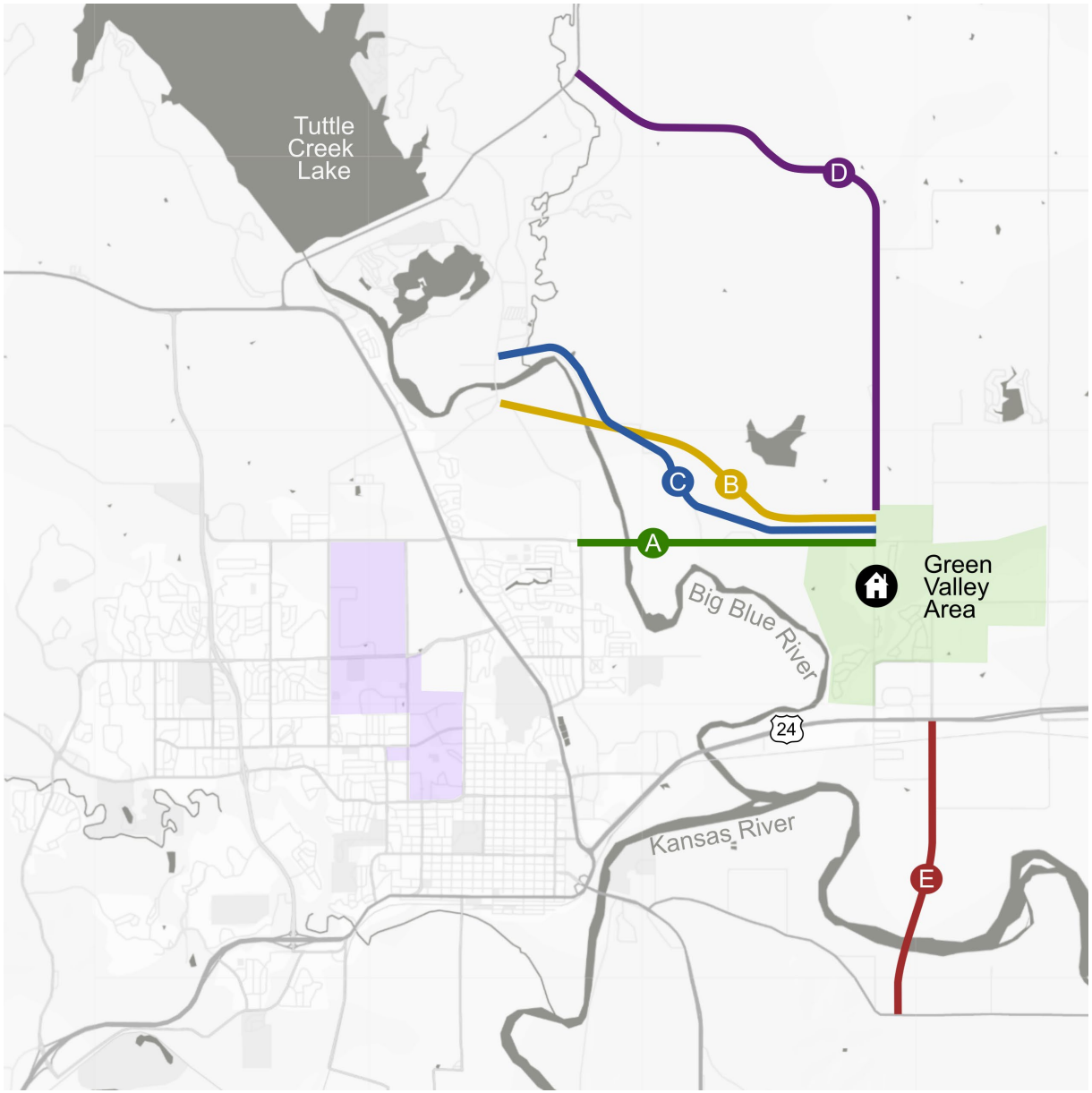
A

B

C

D

E



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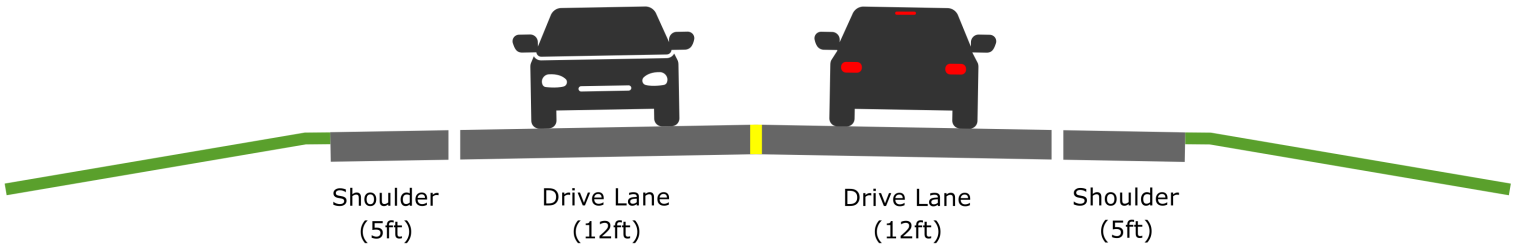
Design Criteria

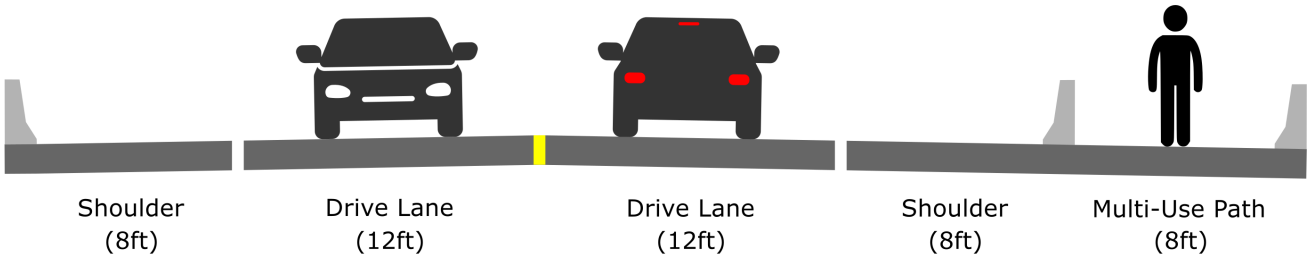
Criteria dictate **roadway design** & **property impacts**… which drive project **costs**.

Lanes	**2 - with shoulders**
Speed Limit	**40 mph**
Road Classification	**Major Collector**
Right-of-Way	**100+ ft**
Max. Vertical Slope	**8%**

Design Criteria



Road Section



Bridge Section

Design Criteria

Not a highway, but a rural 2-lane roadway

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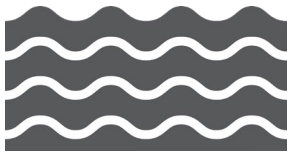
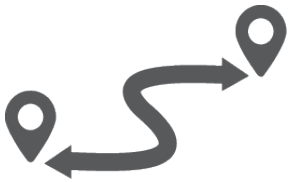
Report Findings: Metric Criteria

Flooding



Route Length



Bridge Length

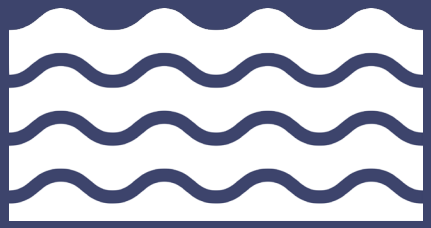
Right-of-Way/ Private Property

ROW

Projected Daily Vehicles

Travel Time

Cost



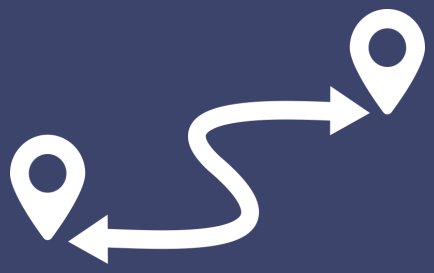
Flooding

Flooding

Would the route be open during a 100-year flood?

A	✗	No, Marlatt Ave & Casement Rd will be closed
B	✓	Yes, Barnes Rd will be open
C	✗	No, Dyer Rd & Blue River Rd will be closed
D	✓	Yes, all roads will be open
E	✗	No, Excel Rd south of US-24 will be closed

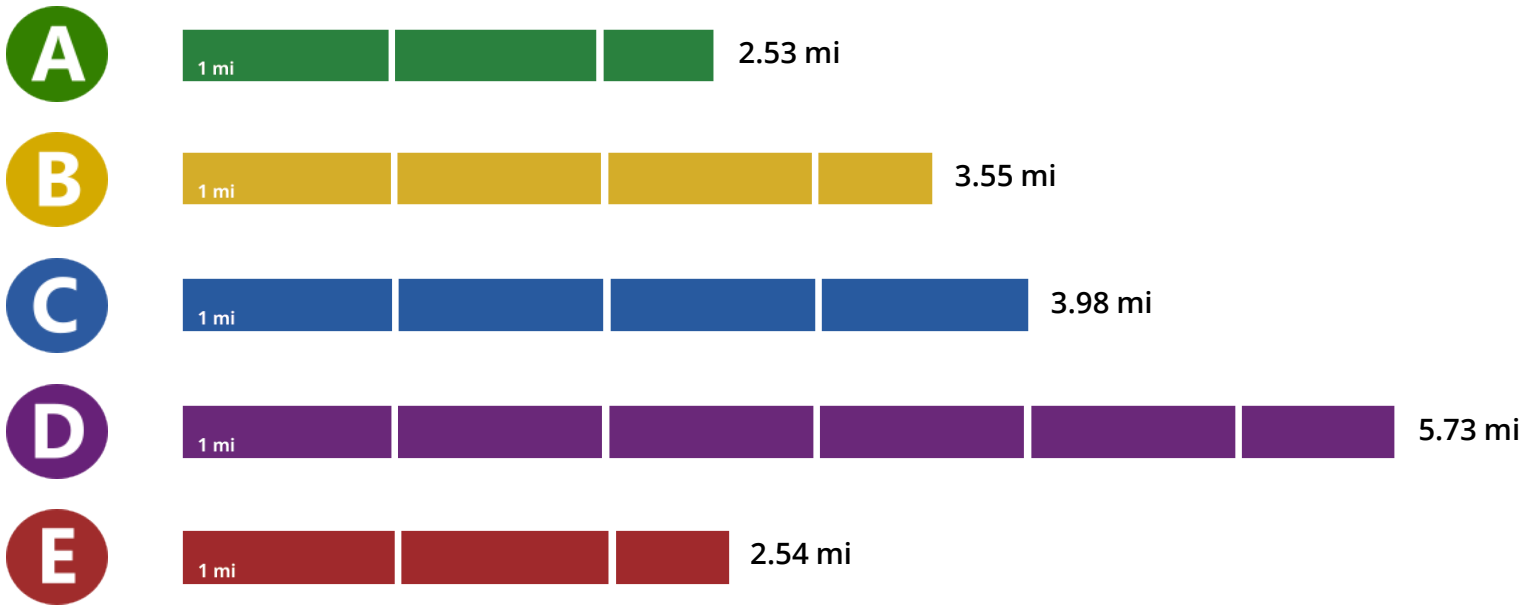
Details: www.FlintHillsMPO.org/2ndConnection



Route Length

Route Length

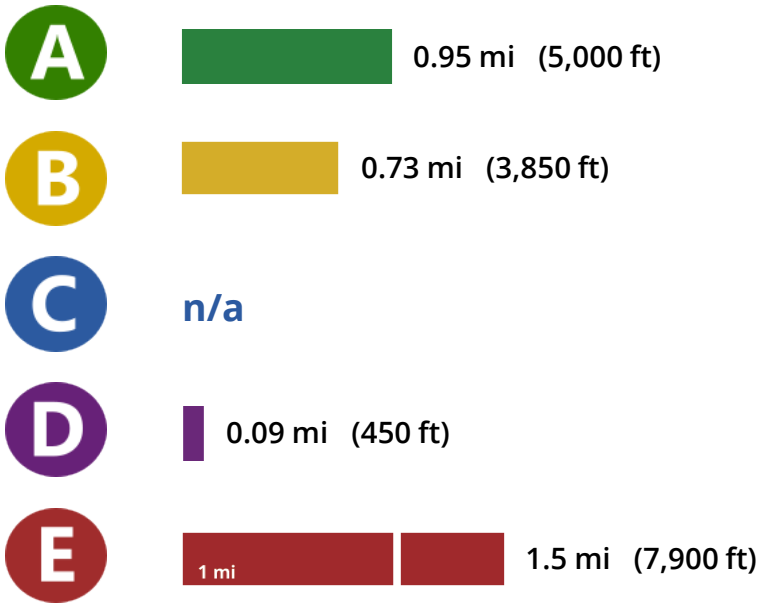
Length of new or improved road construction, including bridges



Length of new or improved road construction, including bridges

Bridge Length

Bridge Length



Details: www.FlintHillsMPO.org/2ndConnection

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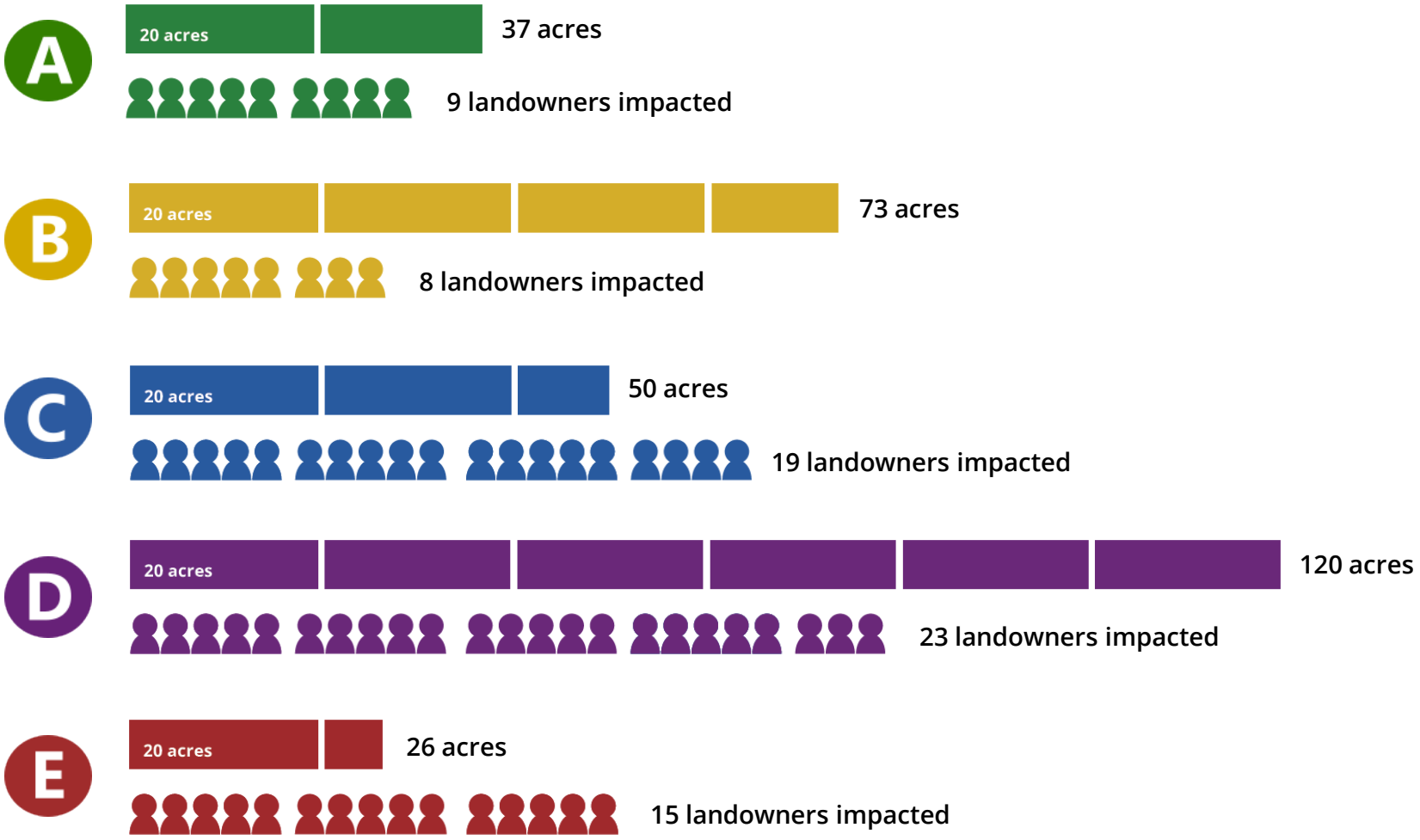
ROW Right-of-Way & Property

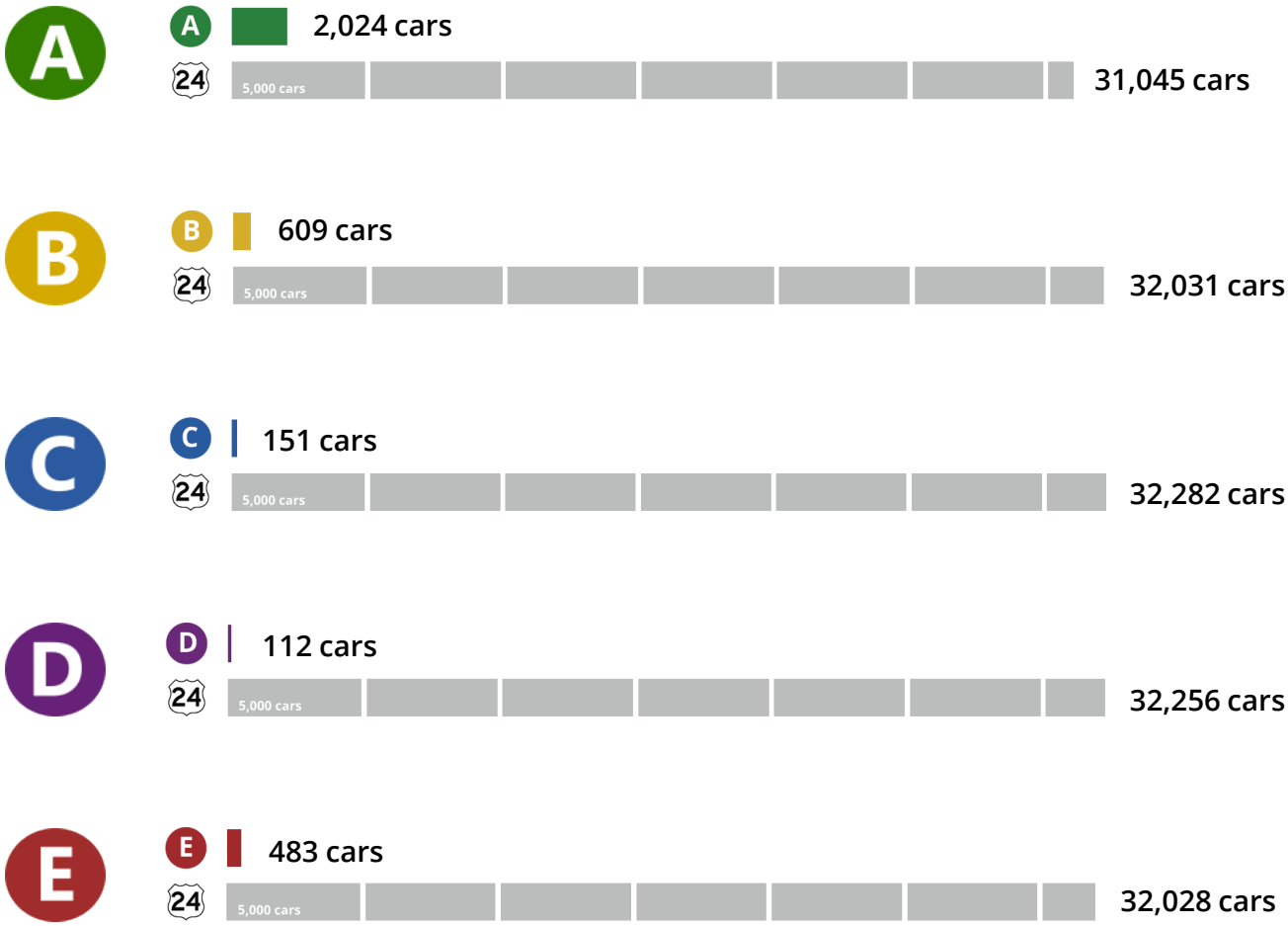
ROW Right-of-Way & Property



Projected Daily Vehicles

Projected Daily Vehicles

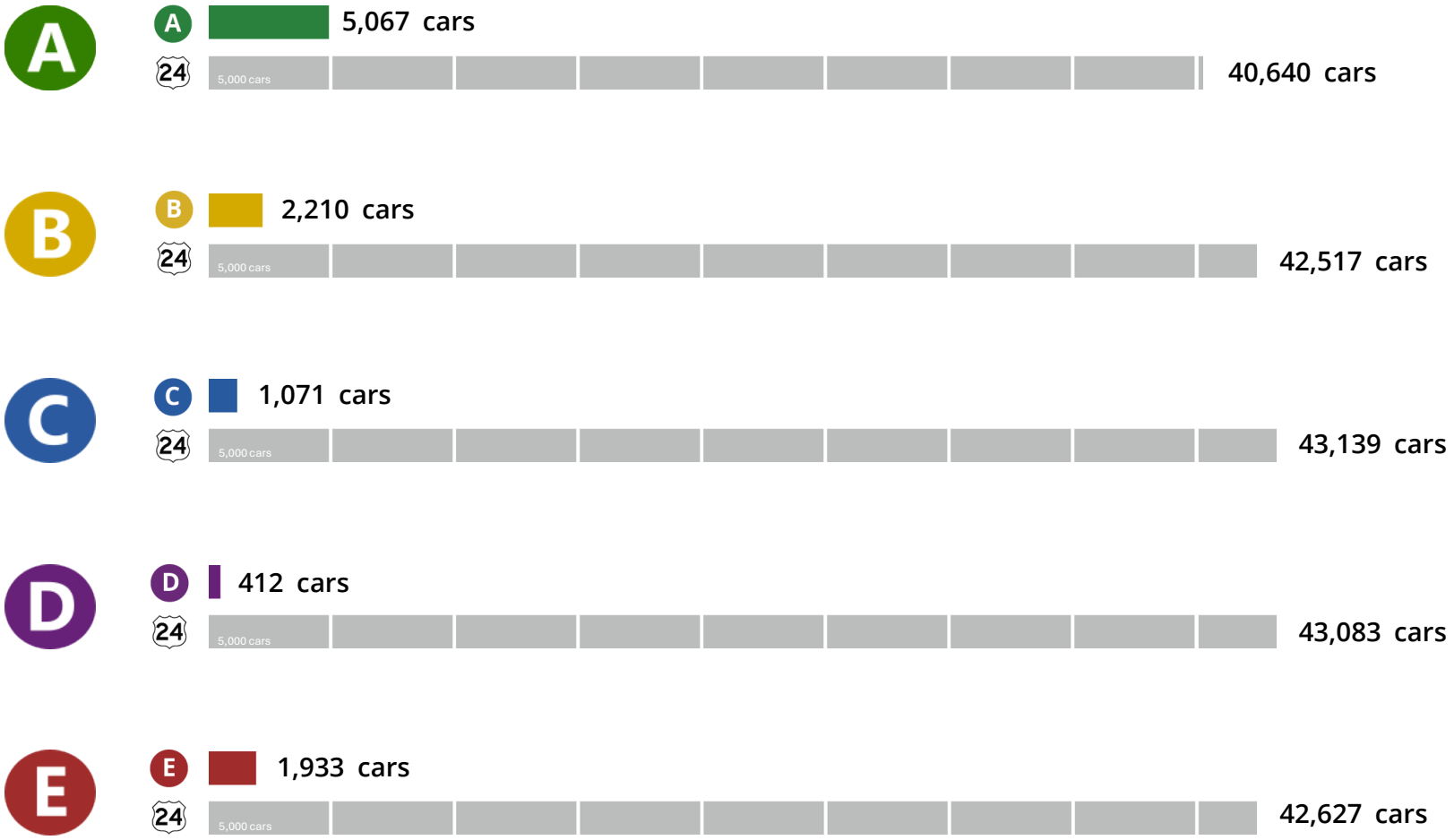
Avg. daily vehicles if the bridge was built **today**



TDM calculation: today's population and E+C network with 2nd Connection route

Projected Daily Vehicles

Avg. daily vehicles with high-end population growth in **2050**



TDM calculation: 2050 high-growth population and E+C network with 2nd Connection route

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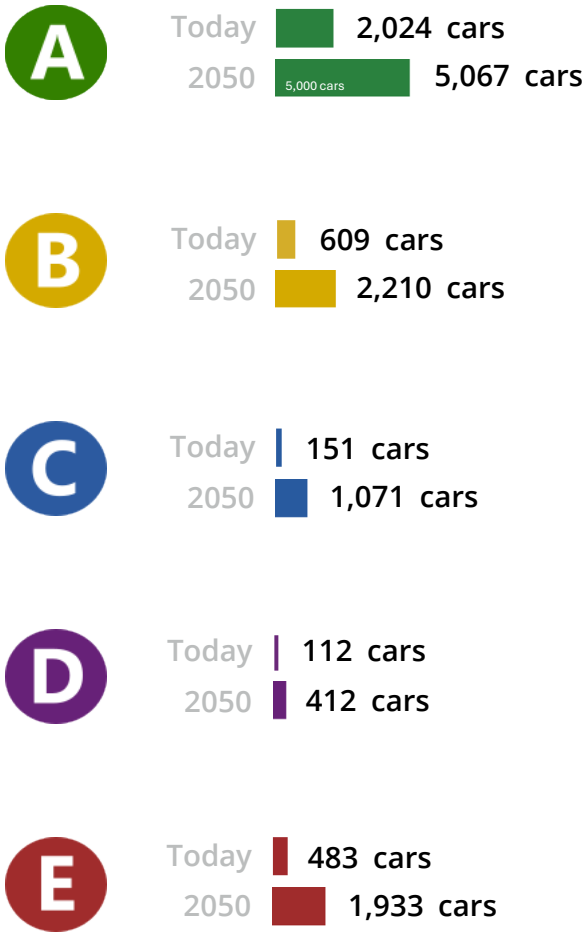
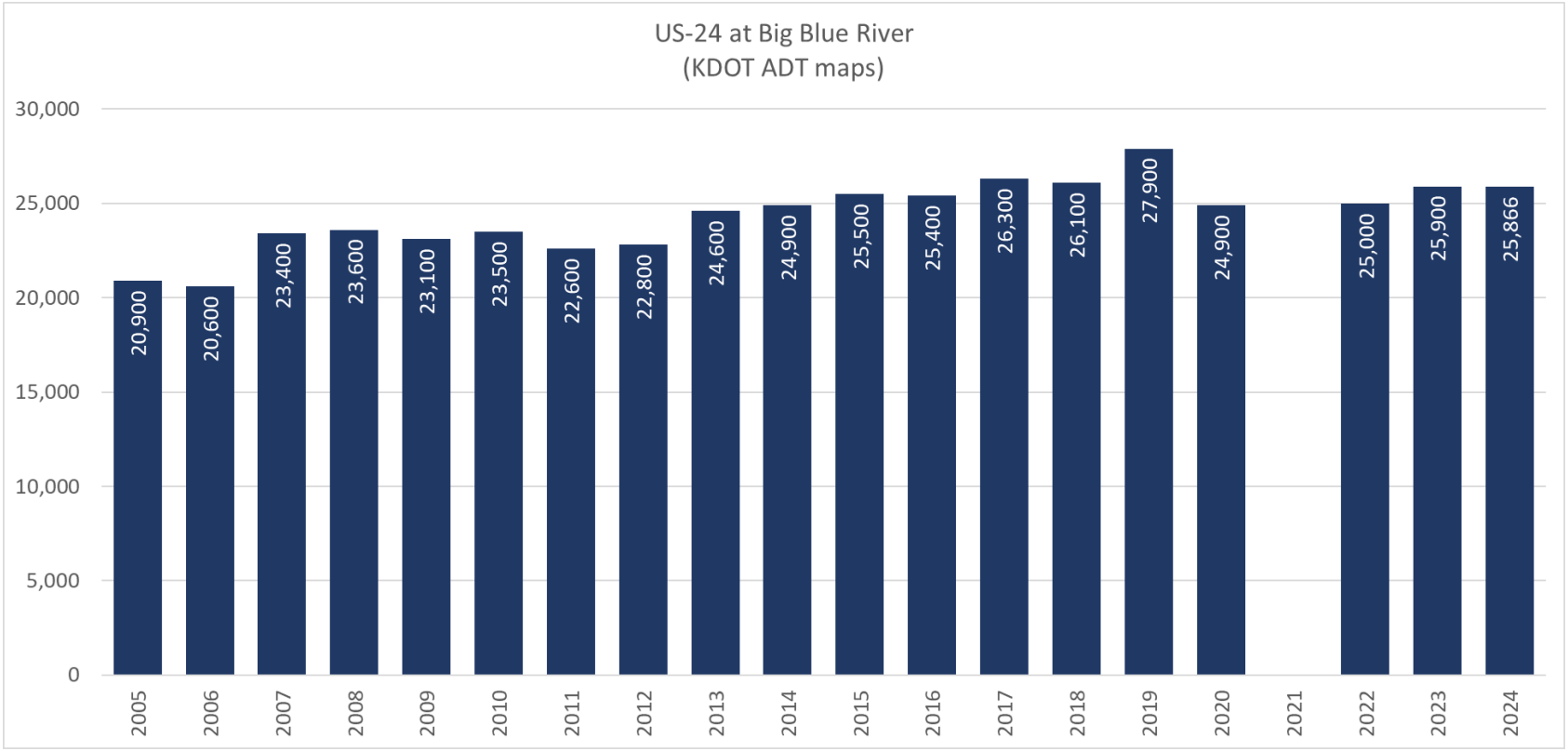
Projected Daily Vehicles



Daily Vehicles: US-24



Projected Daily Vehicles

Online & interactive

www.flinthillsmpo.org/2ndConnection

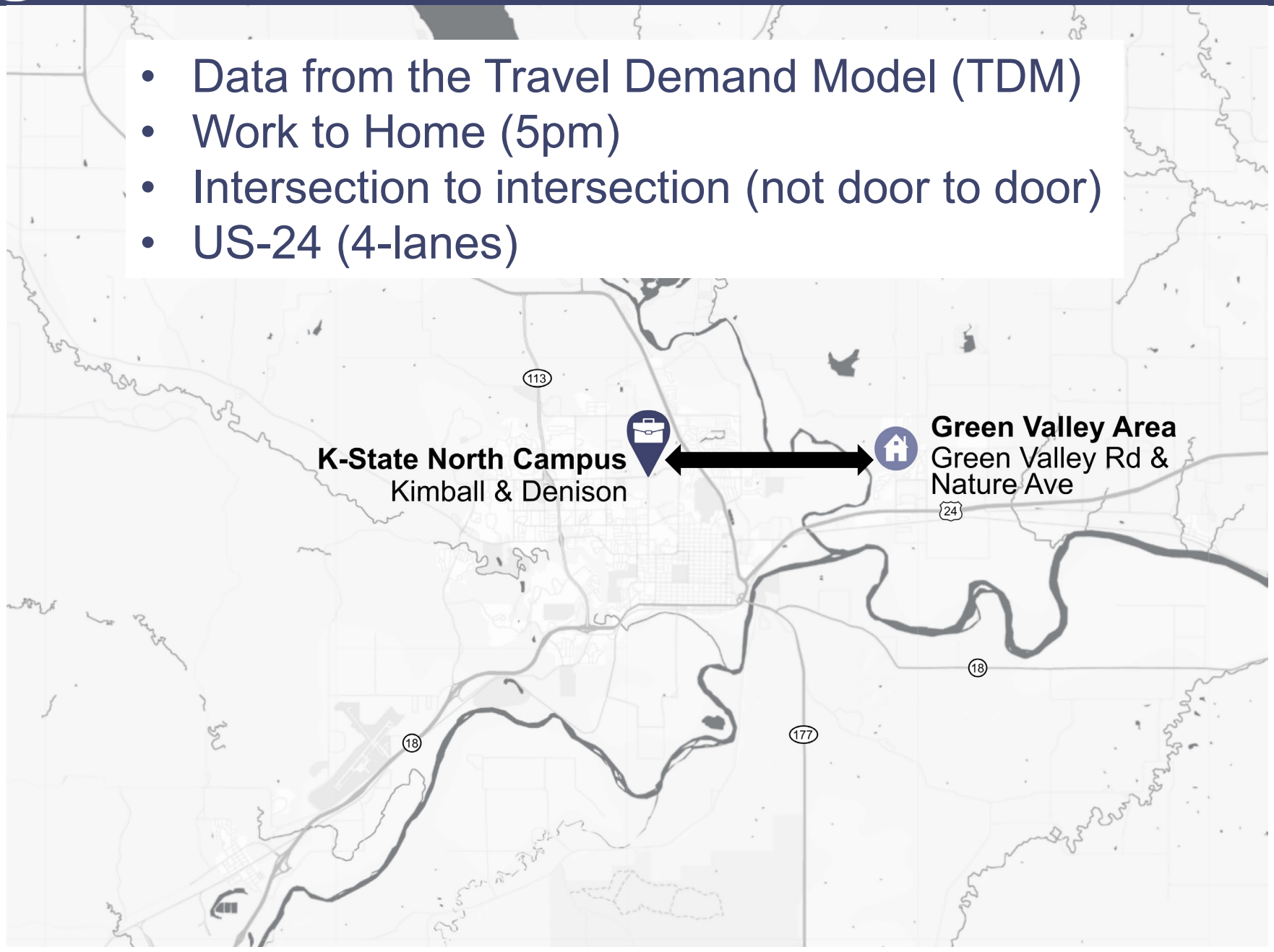
Compare:

- Today vs 2050
- Routes A-E vs US-24
- US-24 (4-lane) vs (6-lane)

Travel Time

Travel Time

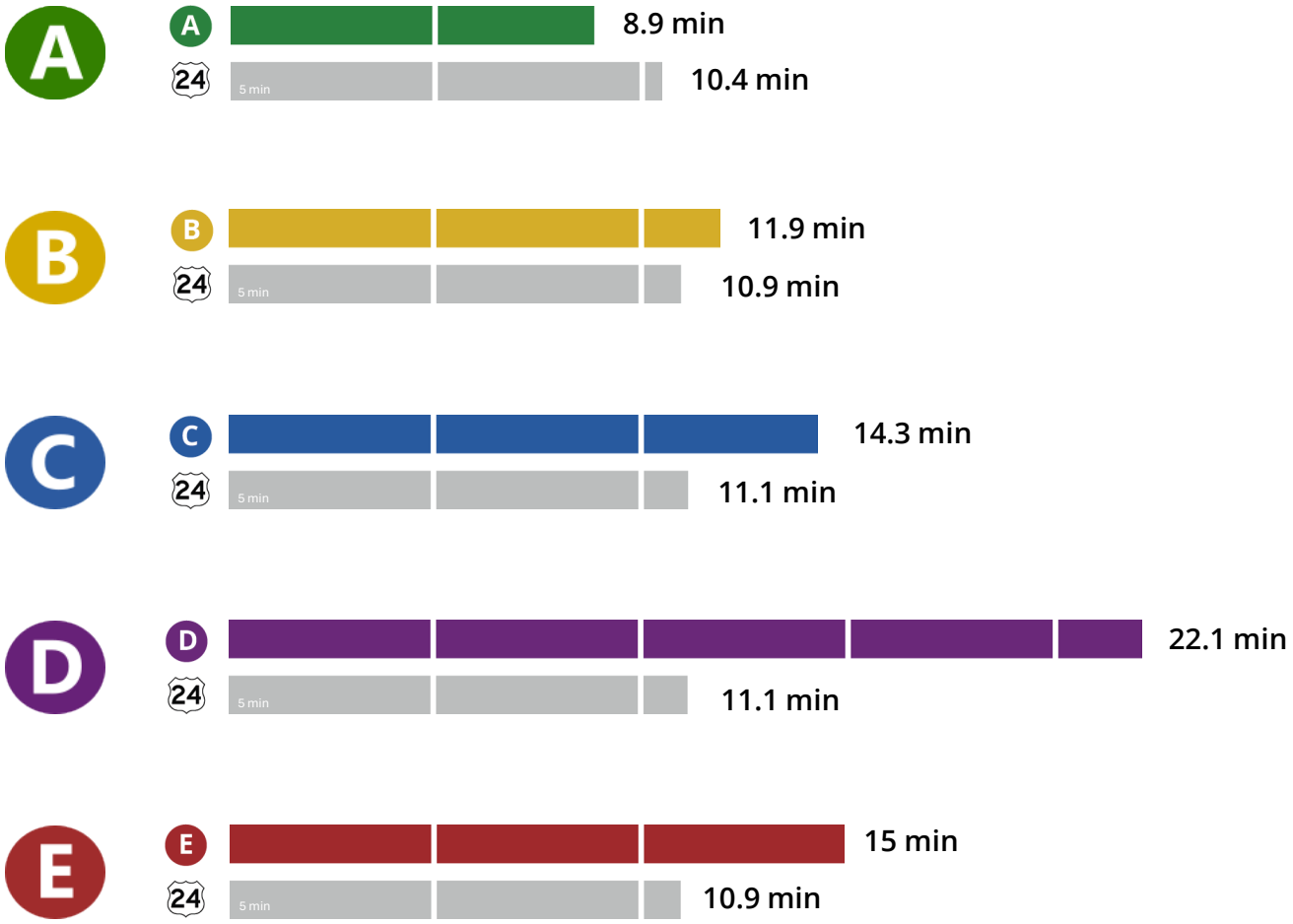
- Data from the Travel Demand Model (TDM)
- Work to Home (5pm)
- Intersection to intersection (not door to door)
- US-24 (4-lanes)



Travel Time

5pm

Avg. travel time if the new connection was built **today**



TDM calculation: today's population and E+C network with 2nd Connection route

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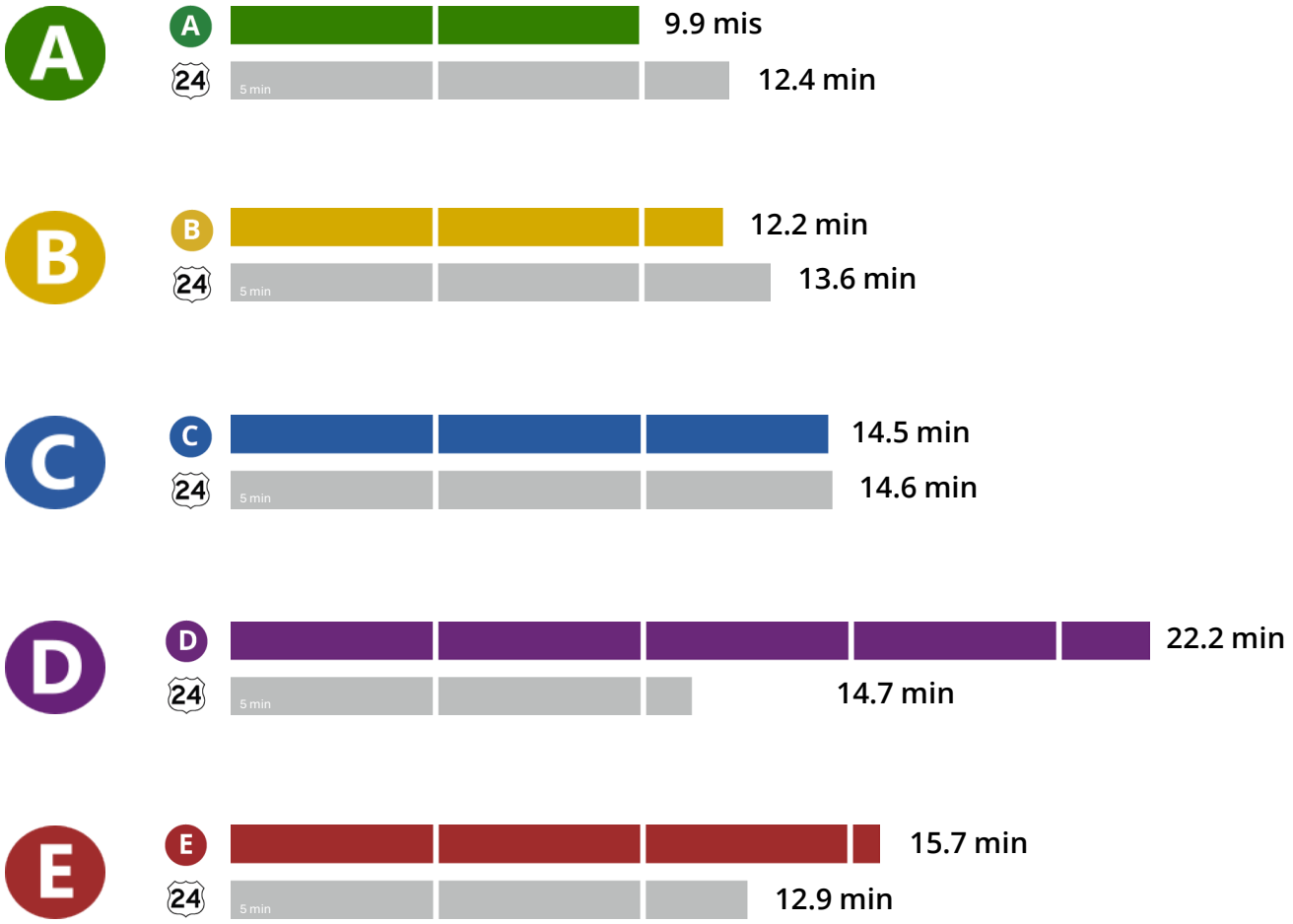
Travel Time

5pm

Avg. travel time with high-end population growth in **2050**



TDM calculation: 2050 high-growth population and E+C network with 2nd Connection route

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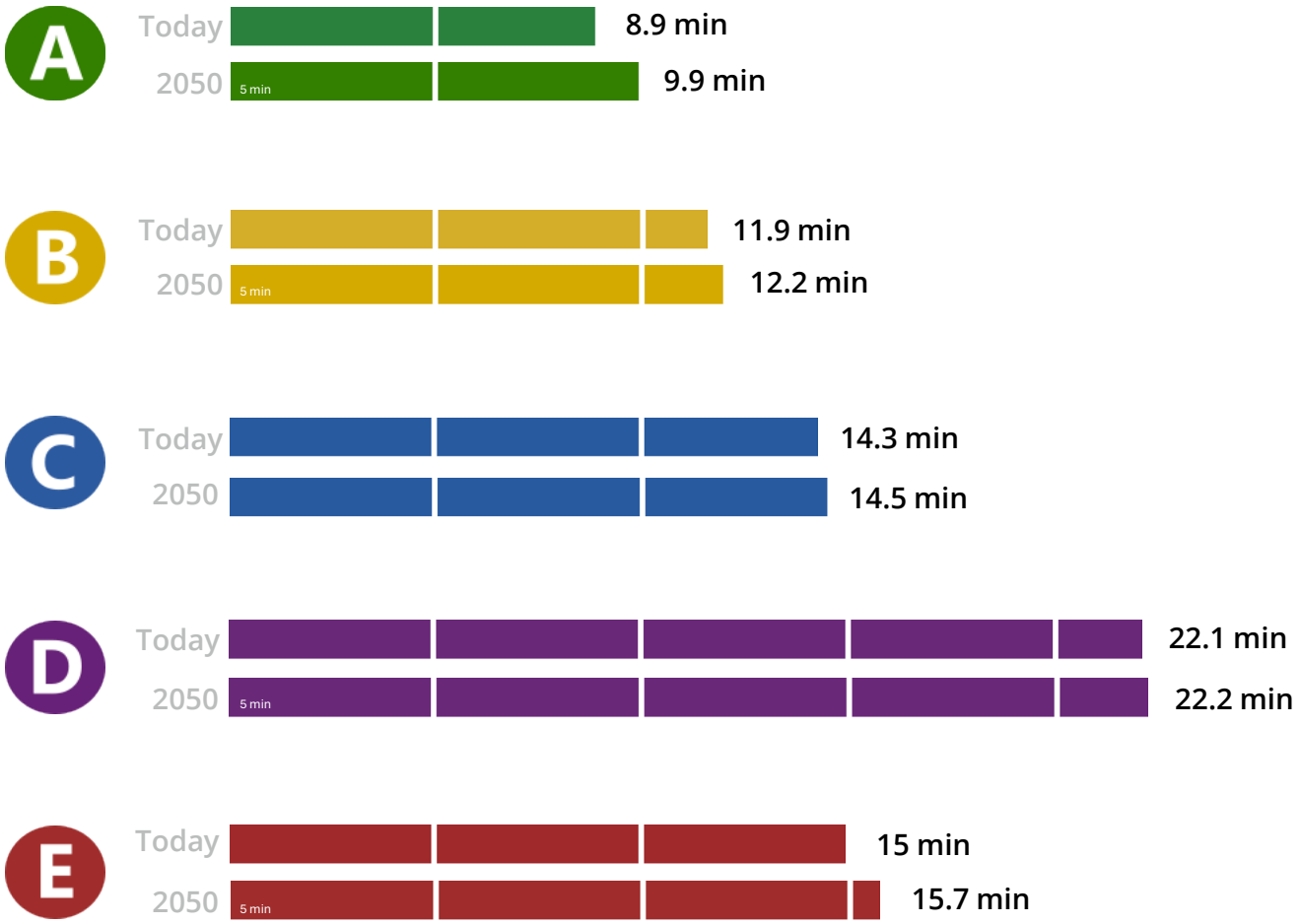
Travel Time

5pm

Avg. travel time



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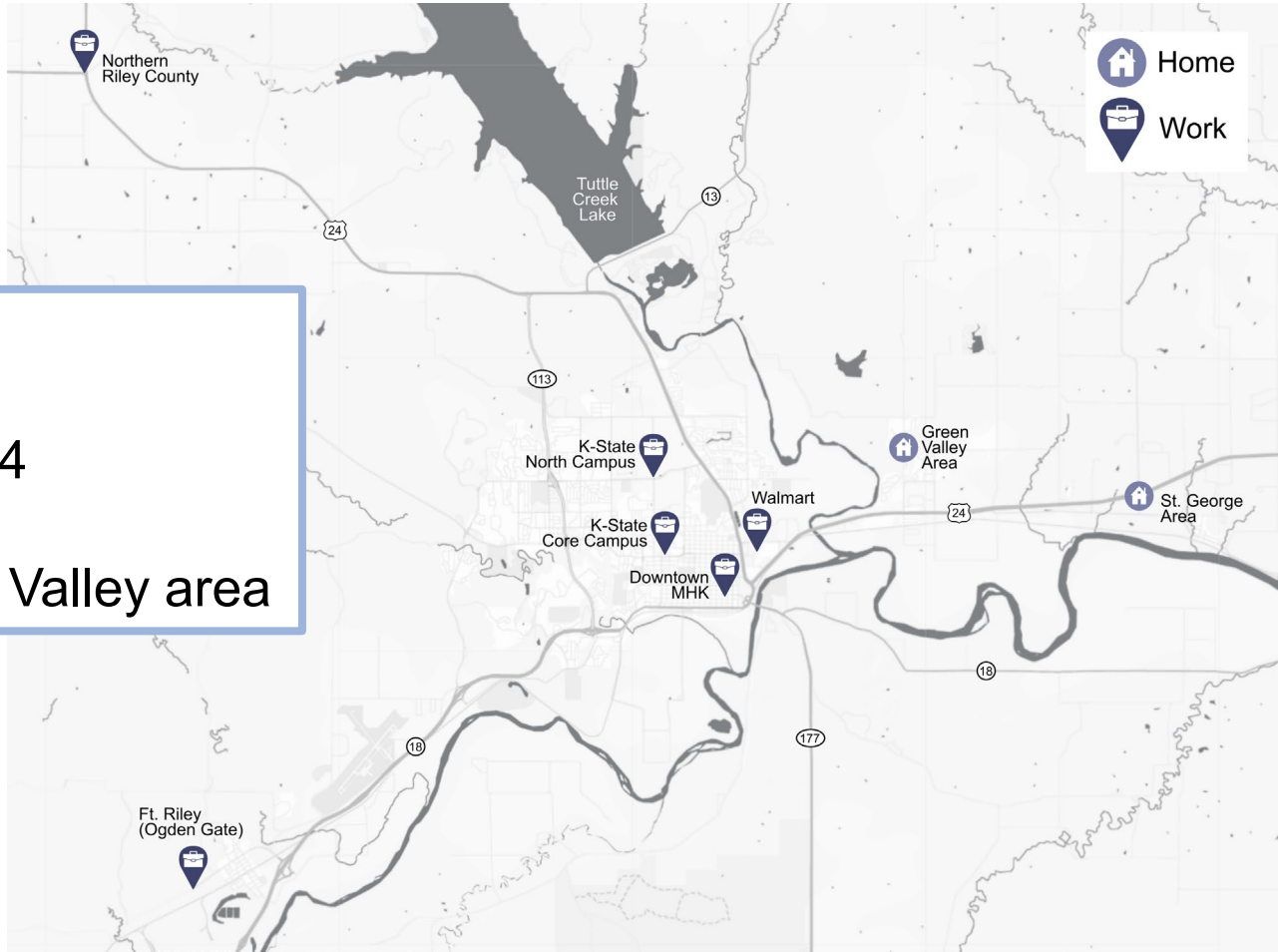
Travel Time

Online & interactive

Travel Time Comparison

Compare:

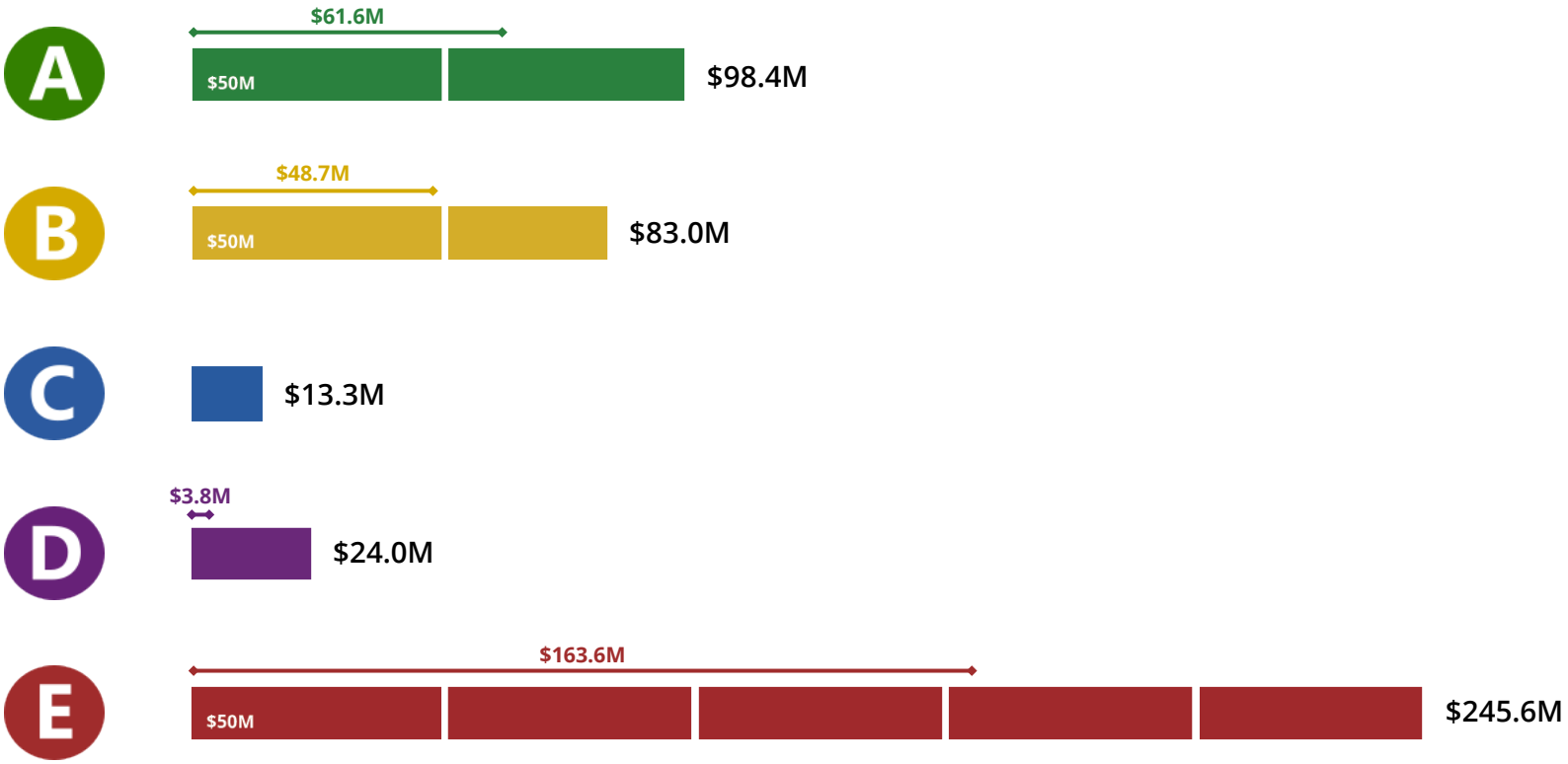
- Today vs 2050
- Routes A-E vs US-24
- 8am vs 5pm
- St. George & Green Valley area



Cost

Cost

ROW + Engineering + Construction + Contingency



Bridge $

Detailed cost estimates available in report

A

Junietta Rd → New Bridge → Marlatt Ave

Open During 100Y Flood? ✗

Study Metrics

Route Length	2.53 mi
Bridge Length	0.95 mi (5,000 ft)
Projected Daily Vehicles	A 2,024 cars; 24 31,045 cars
Travel Time	A 8.9 min; 24 10.4 min
Right-of-Way/ Private Property ROW	37 acres; 9 landowners impacted
Cost	$98.4M

B

Junietta Rd → New Road → New Bridge → Barnes Rd

Open During 100Y Flood? ✓

Study Metrics

Route Length	3.55 mi
Bridge Length	0.73 mi (3,850 ft)
Projected Daily Vehicles	B 609 cars; 24 32,031 cars
Travel Time	B 11.9 min; 24 10.9 min
Right-of-Way/ Private Property ROW	73 acres; 8 landowners impacted
Cost	$83.0M

C

Junietta Rd → Blue River Rd → Barnes Rd

Open During 100Y Flood? ✗

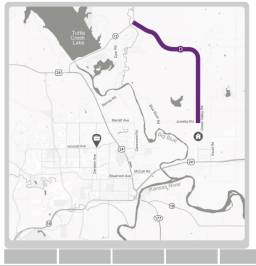
Study Metrics

Route Length	3.98 mi
Bridge Length	N/A
Projected Daily Vehicles	C 151 cars; 24 32,282 cars
Travel Time	C 14.3 min; 24 11.1 min
Right-of-Way/ Private Property ROW	50 acres; 19 landowners impacted
Cost	$13.3M

D

Green Valley Rd → New Road → Cedar Creek Rd

Open During 100Y Flood? ✓



Study Metrics

Route Length	5.73 mi
Bridge Length	0.09 mi (450 ft)
Projected Daily Vehicles	D 112 cars; 24 32,256 cars
Travel Time	D 22.1 min; 24 11.1 min
Right-of-Way/ Private Property ROW	120 acres; 23 landowners impacted
Cost	$24.0M

E

Excel Rd → New Bridge → K-18

Open During 100Y Flood? ✗

Study Metrics

Route Length	2.54 mi
Bridge Length	1.5 mi (7,900 ft)
Projected Daily Vehicles	E 483 cars; 24 32,028 cars
Travel Time	E 15 min; 24 10.9 min
Right-of-Way/ Private Property ROW	26 acres; 15 landowners impacted
Cost	$245.6M

Next Steps

Winter 2025-26	**Cost-Benefit Analysis**
Summer 2026	**Public Outreach**
Future (Potential Next Steps)	**Local Political Consensus**
	Local Joint Leadership Committee
	Preliminary Design (survey, bridge design, NEPA)
	Preliminary Plan Development (Permitting, Utilities)
	Right-of-Way Development
	Final Design
	Construction

Further Information: www.FlintHillsMPO.org

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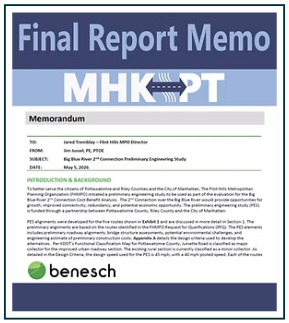
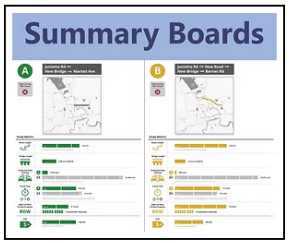
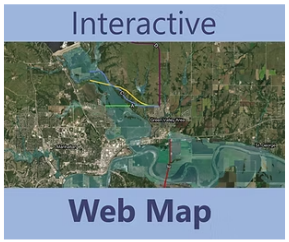


This memo provides the complete findings on the routes of study.
Items include:

- Summaries of each route option
- Projected vehicle use of each route option
- Design criteria
- Plan drawings of proposed routes
- Profile drawings proposed routes & bridges
- Itemized cost estimates (planning level)



These summary boards visualize the data and findings from the Final Report Memo. They enable quick side-by-side comparisons of the five routes studied.



This interactive web map allows you to see in detail the five routes studied. Layers include:

- Route alignments
- Bridge locations
- Flood zones
- Right-of-Way & property impacts

Travel Time Comparison

This interactive tool allows you to compare travel time from Blue Township or St. George to various locations in Manhattan, using 2nd Connection Routes (ie. A vs B vs US-24, etc.). The tool shows predicted travel times for today and under future conditions in 2050.

Traffic Volume Comparison

This tool allows you to compare expected traffic volumes (number of vehicles) on 2nd Connection Routes (A - E), and how those routes impact traffic volumes on US-24. Travel volumes are provided for today and under future conditions in 2050.

Questions & Comments

THANK YOU!

JARED TREMBLAY, Director
tremblay@flinthillsmpo.org

FlintHillsMPO.org

Notes: Bridge Lengths

- Bridges were designed to span the flood zone
- Shorter bridges with roadway on berms would cause back-flooding into Manhattan and areas north

Notes: ROW calculations

- Engineering plans were georeferenced in GIS.
- Project boundaries & ROW were drawn in GIS
- Acreage was calculated
- $10k p acre (per PT County Engineer)
- Total ROW Costs:

Route	Acres of ROW	$ p Acre	$ of ROW
A	37.057	$ 10,000	$ 370,570
B	73.423	$ 10,000	$ 734,230
C	49.855	$ 10,000	$ 498,550
D	119.697	$ 10,000	$ 1,196,970
E	26.493	$ 10,000	$ 264,930

Notes: Projected Daily Vehicles

WHAT IS THE TRAVEL DEMAND MODEL?

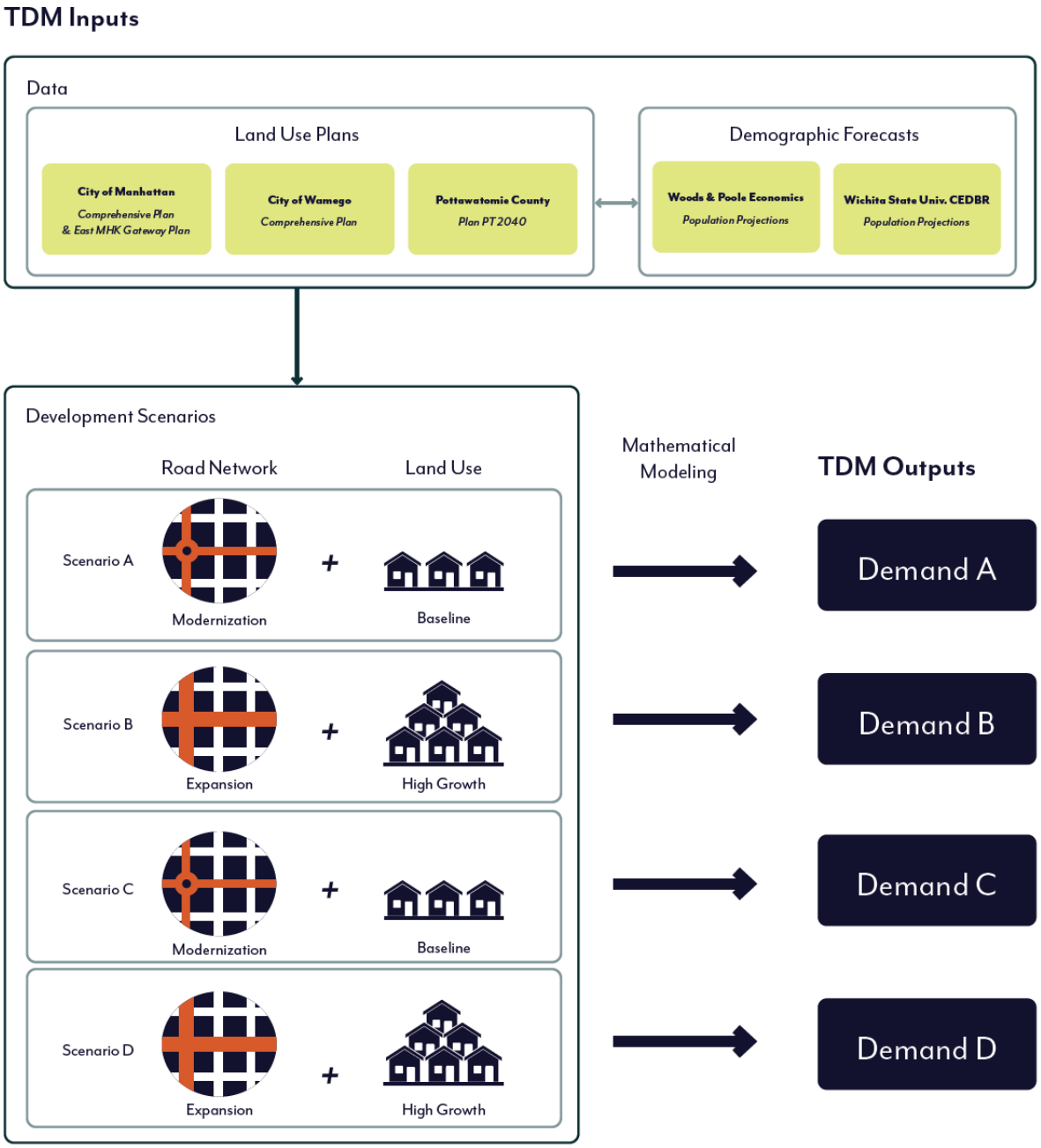
A tool that uses data to envision how people move throughout the MPO area and to test future development scenarios.

A travel demand model (TDM) uses complex mathematics to predict future traffic conditions and travel times based on a variety of data, including population, land use, and road network characteristics. The TDM helps decision-makers evaluate the transportation system of today and the future and allows for the testing or projects and policies to find solutions.

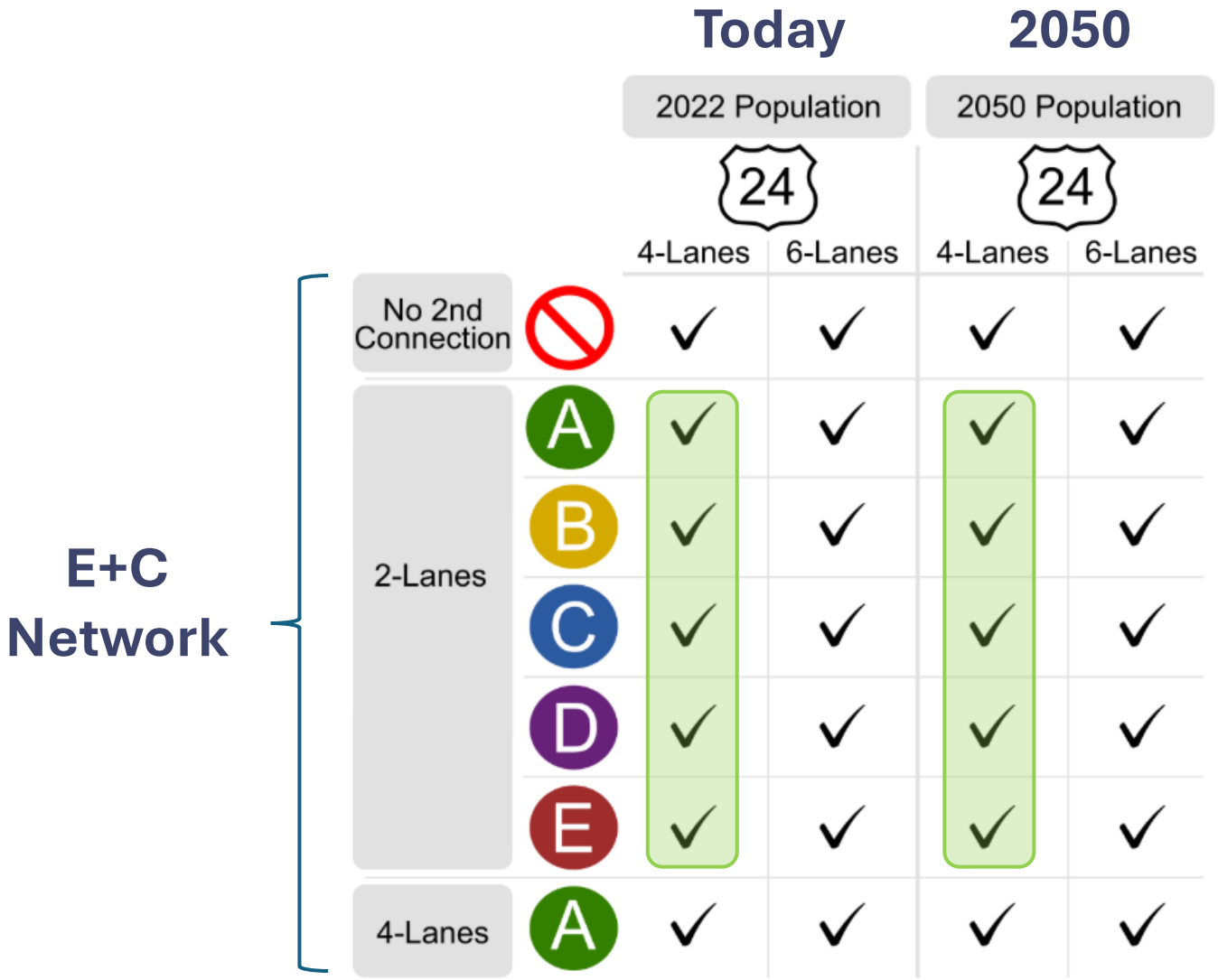
TDM calculation: 2050 high-growth population and E+C network with 2nd Connection route

TDM calculation: today's population and E+C network with 2nd Connection route

Notes: Projected Daily Vehicles



Notes: Projected Daily Vehicles

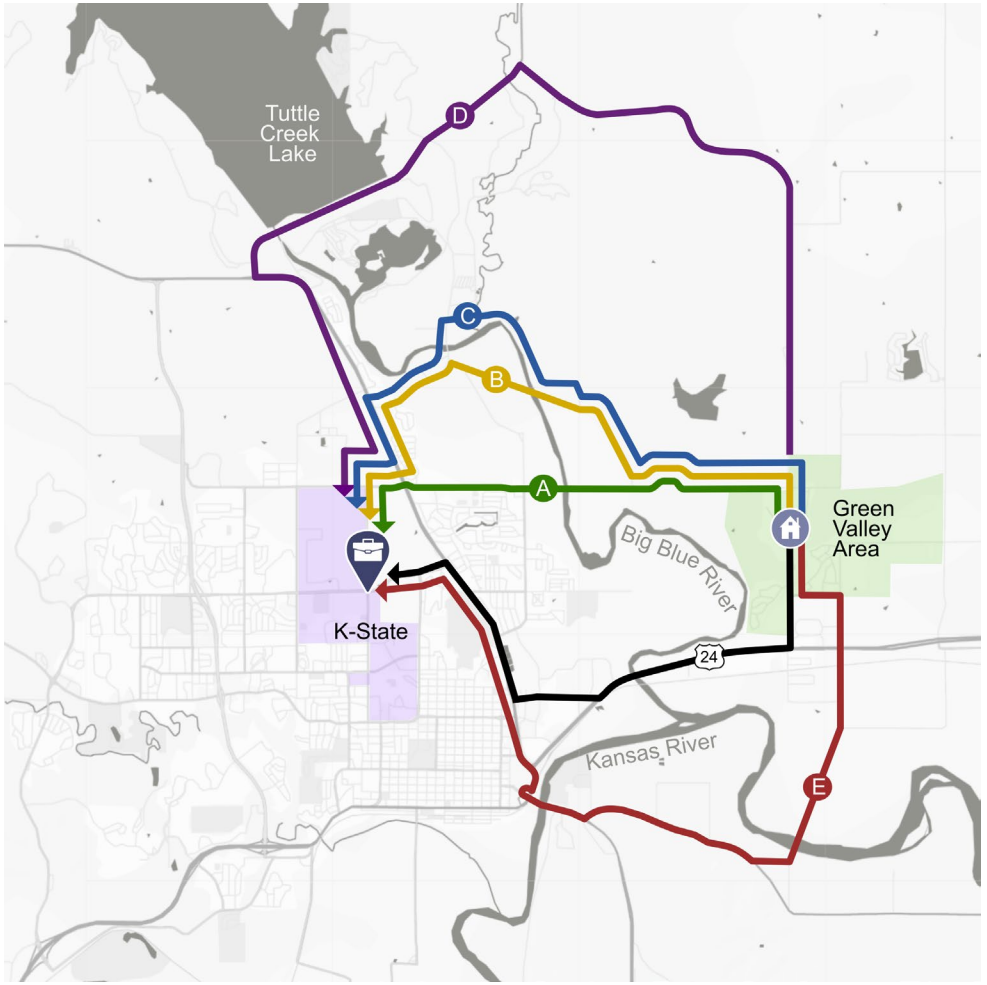


E+C (Existing + Confirmed): Today's road network with projects that are expected to be built (TIP projects). Then a scenario is built with each 2nd Connection option (A-E). 28 scenarios were run for this study.

Notes: Travel Time

Green Valley Area	
Route	Distance (mi)
US-24	6.05
A	5.5
B	7.9
C	7.05
D	13.55
E	10.8

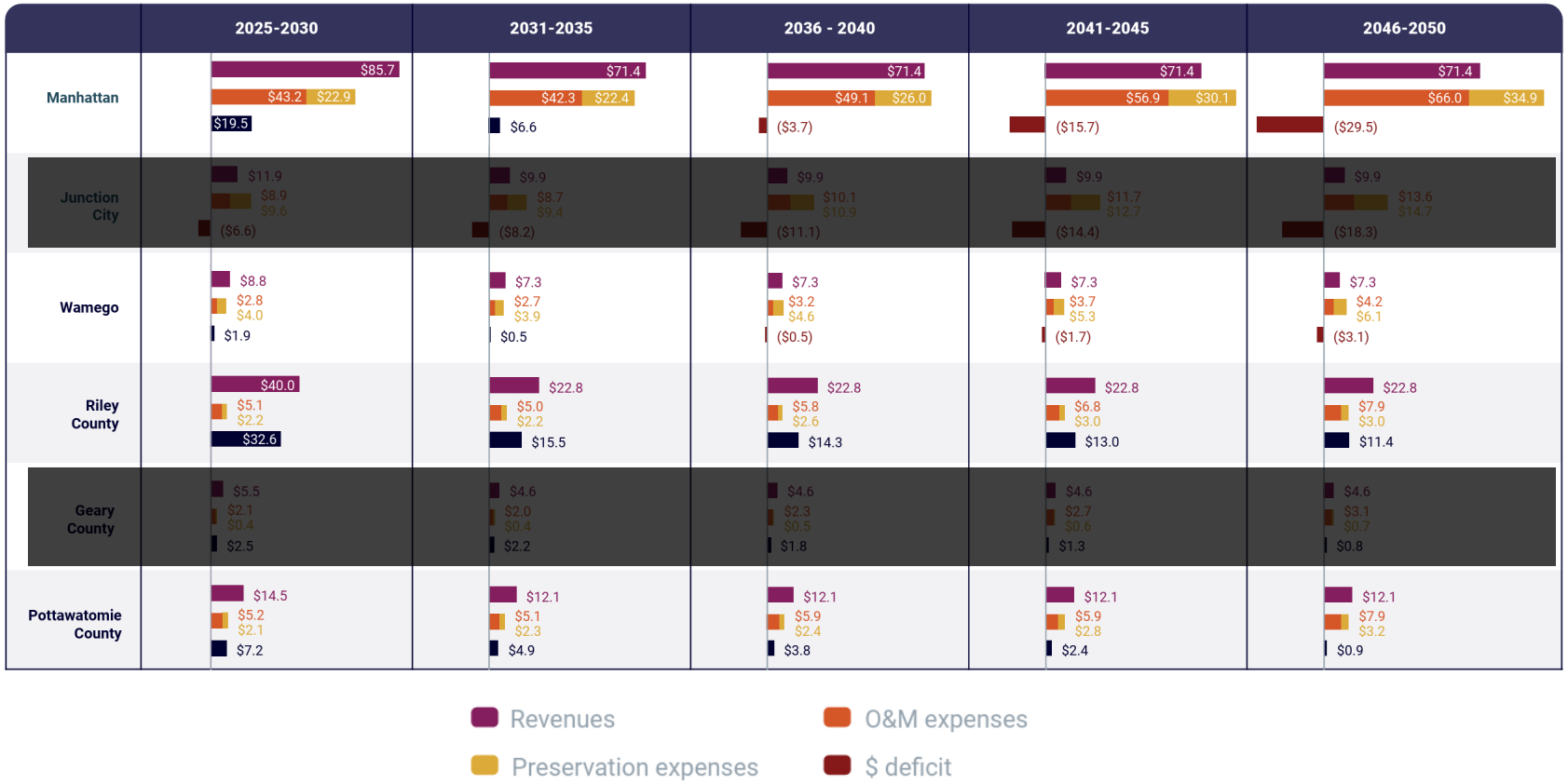
* E+C (US-24 = 4-lanes)



Work: Kimball & Denison
Home: Green Valley Rd & Nature Ave

Notes: Priorities & Funding

- Locally owned road = Locally funded & maintained*
- Local Funding = CONNECT 2050



* Potential State funding (but not a state facility)

MHK PT

Flint Hills MPO

Notes: Priorities & Funding

MHK + RL + PT