



RideKC
STREETCAR™

NorthRail

Balancing the needs of multiple stakeholders
to cross the Missouri River

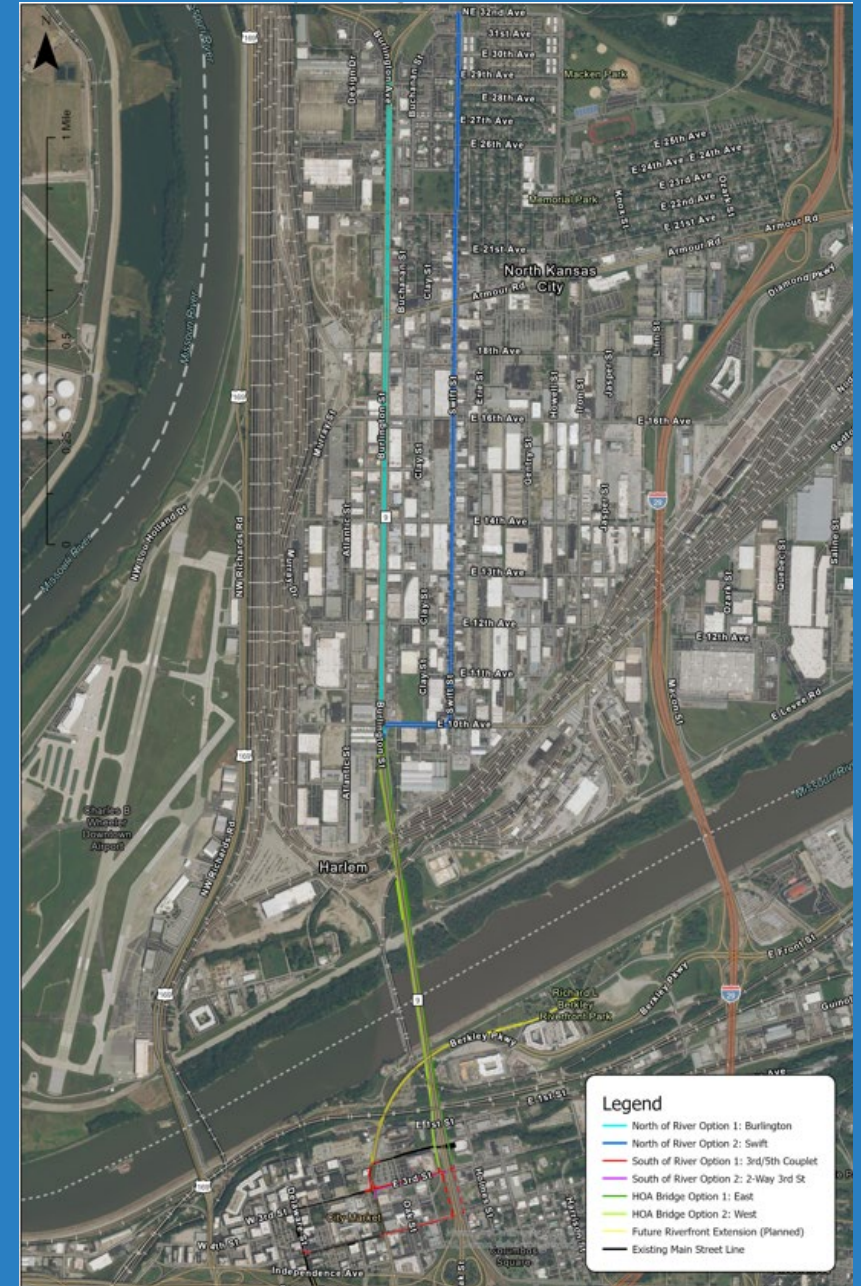
TEAM Presentation | March 16, 2023

Jeff D. McKerrow, PE, PTOE | *Kimley-Horn & Associates*



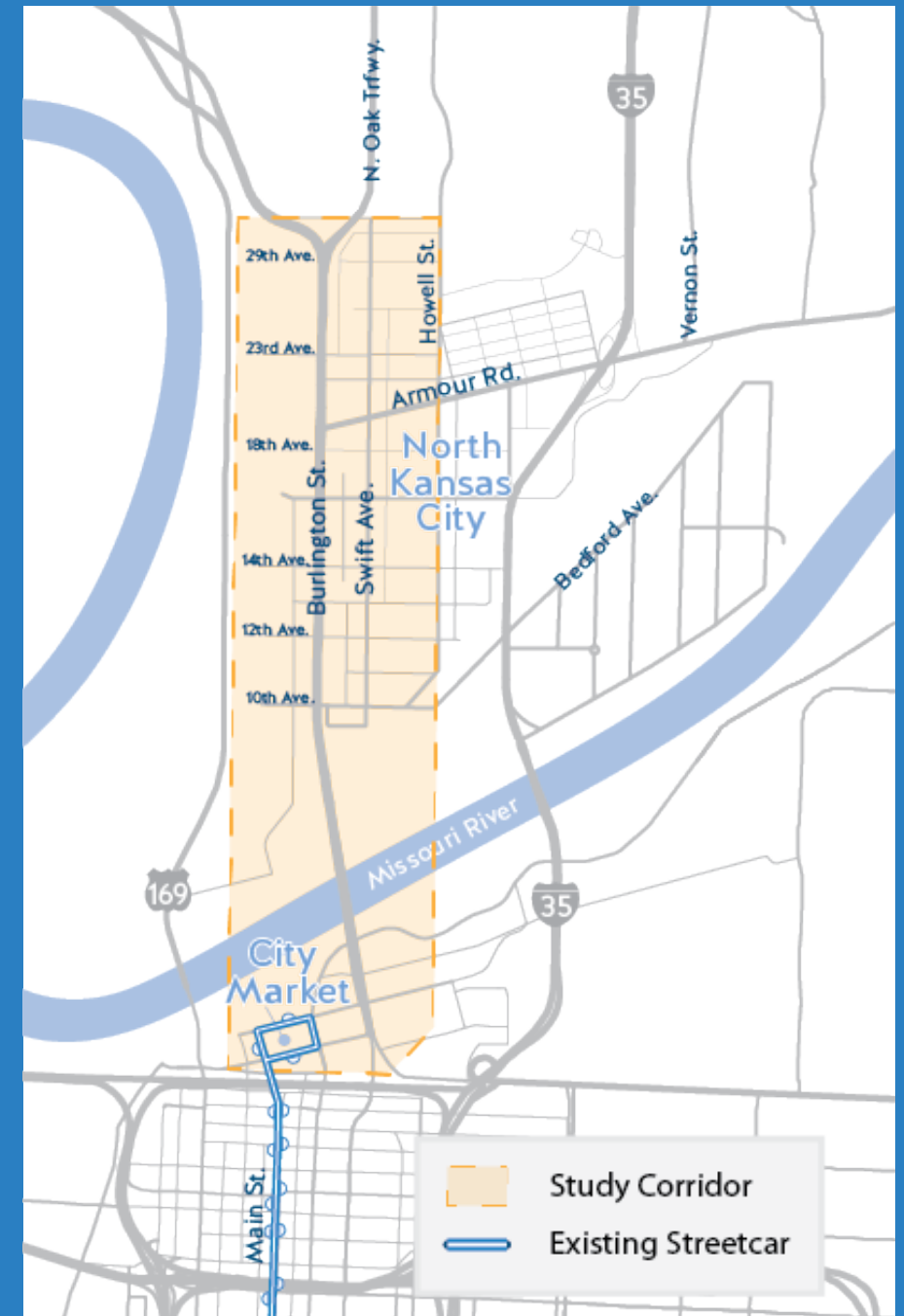
Agenda

- Review of Alternatives
- Station Locations
 - Walkshed Analysis
- Public Outreach Findings
 - Online Meeting in May
 - Open House in June
- Cost Estimates
- Local Revenue Estimates
- Next Steps



Background

- 2014 NorthRail Study conclusions
- Changes since 2014
 - KC Streetcar Starter Line Success and Expansion
 - Growth/Investment in North Kansas City
 - Buck O'Neil Bridge
 - Complete Street (Cycle Track) Improvements on Burlington



Project Management Team

- Lauren Krutty, KCSA
Planning & Operations Mgr
- Tom Gerend, KCSA
Executive Director
- Donna Mandelbaum, KCSA
Communications & Market Dir.
- Anthony Sands, North KC
Director of Public Works
- Kim Nakahodo, North KC
Interim City Manager
- Dick Jarrold, KCATA
VP Regional Planning & Development
- David Johnson, KCTA
Vice President
- Angie Laurie, KCMO
Associate Director of Transportation
- Jason Waldron, KCMO
Transportation Director
- Mark Fisher, MoDOT
Area Engineer
- Ron Achelpohl, MARC
Transportation and Environment Director

Purpose and Need



Connect

North Kansas City and the Northland to Downtown Kansas City, Missouri

Fast and frequent service over the Missouri River



Enhance

Accessibility for all users over the Missouri River

Mobility choices for the metropolitan region

Options for future connections to regional transit

Climate protection and resilience through more efficient and environmentally friendly travel







Develop

Proven catalyst for economic development

Support goals of North Kansas City Comprehensive Plan

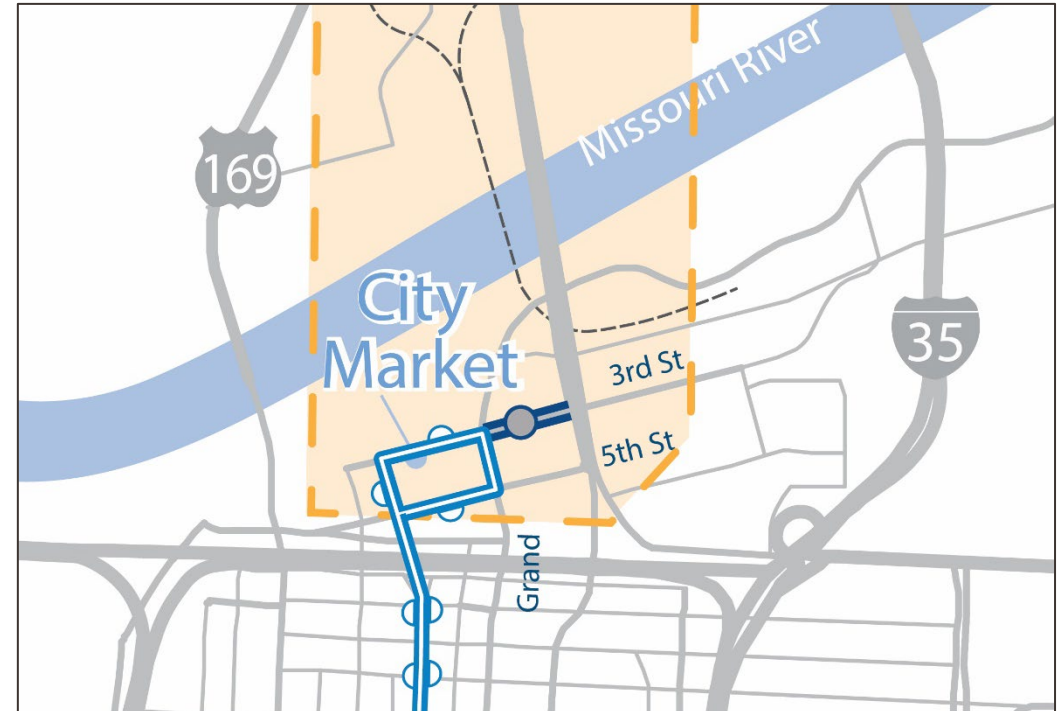
South of Missouri River

-  Potential Stations
-  Potential NorthRail Alignment
-  Study Corridor
-  Existing Streetcar





3rd / 5th Couplet



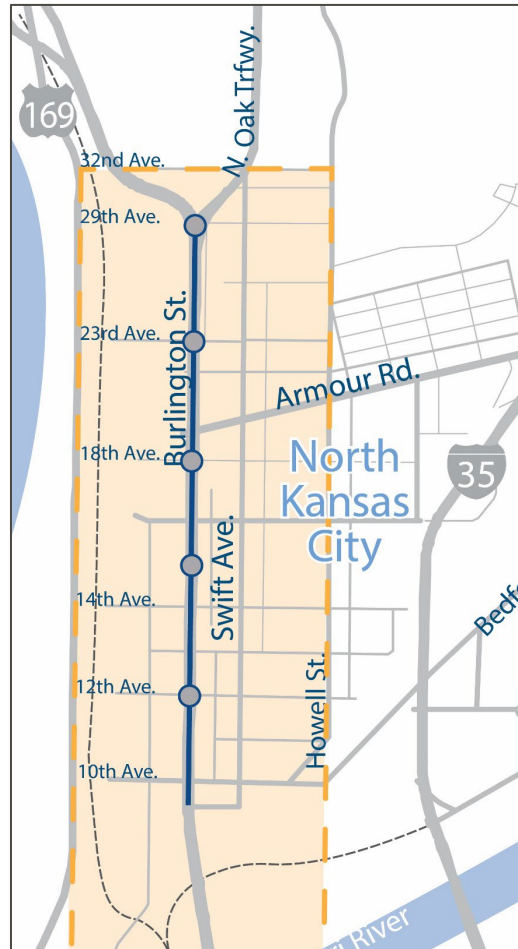
2-Way 3rd Street



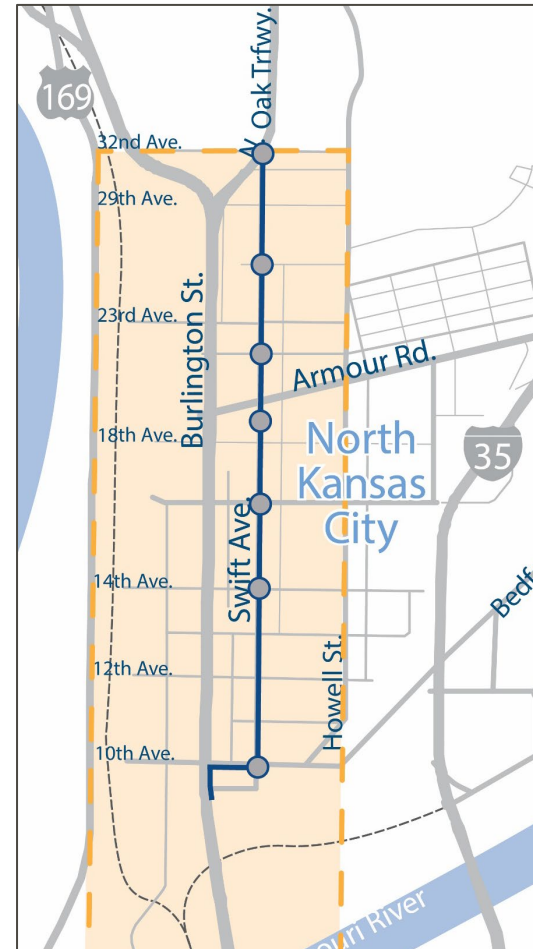
North Kansas City

-  Potential Stations
-  Potential NorthRail Alignment
-  Study Corridor
-  Existing Streetcar

Burlington



Swift



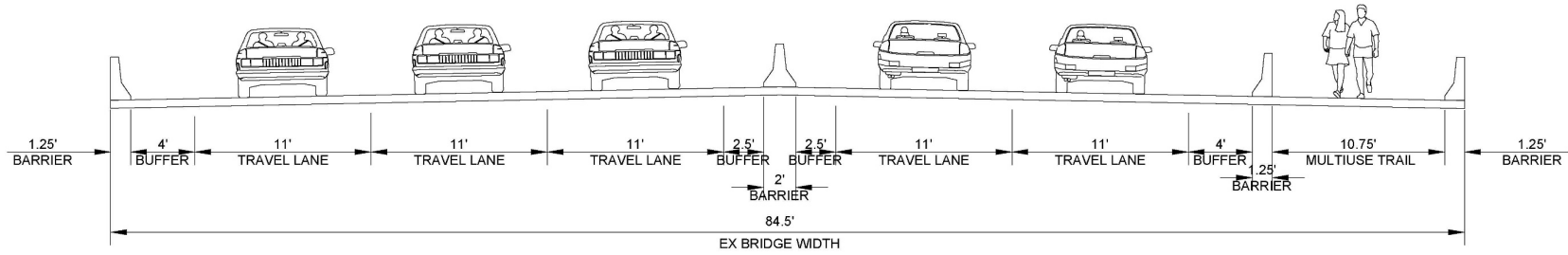


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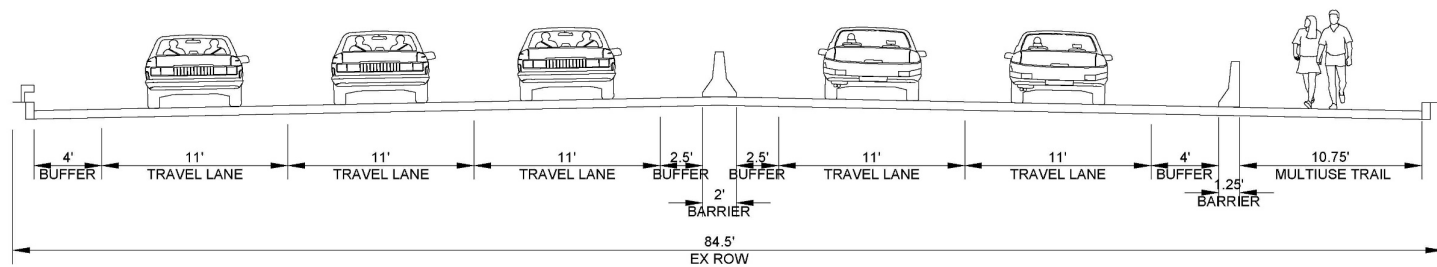
Missouri River Crossing

Heart of America (Route 9) Bridge

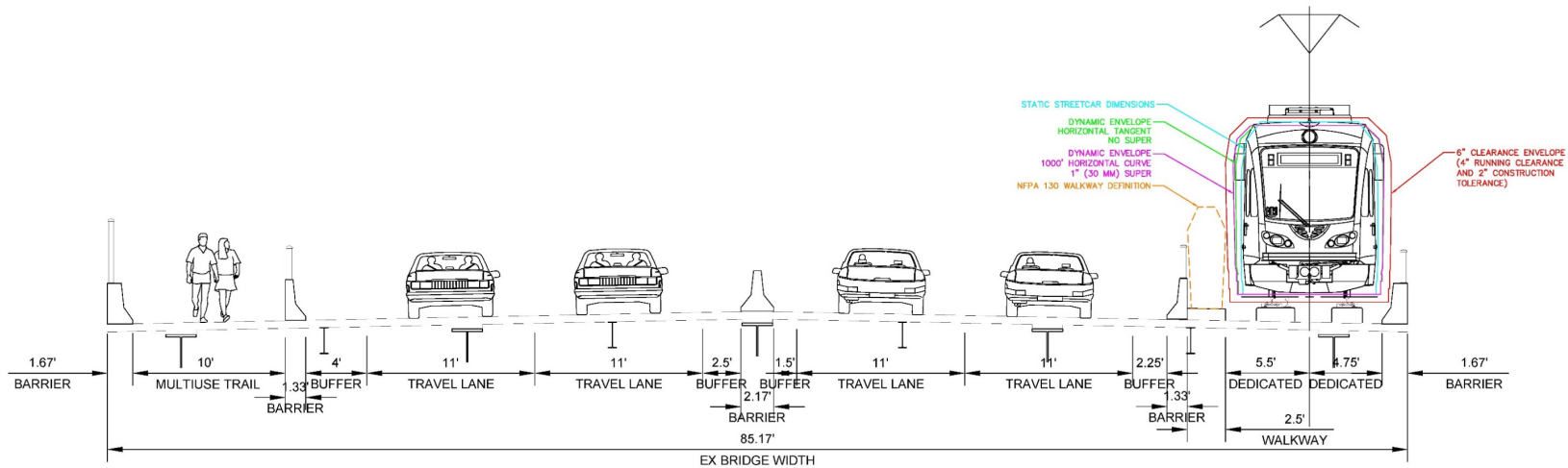




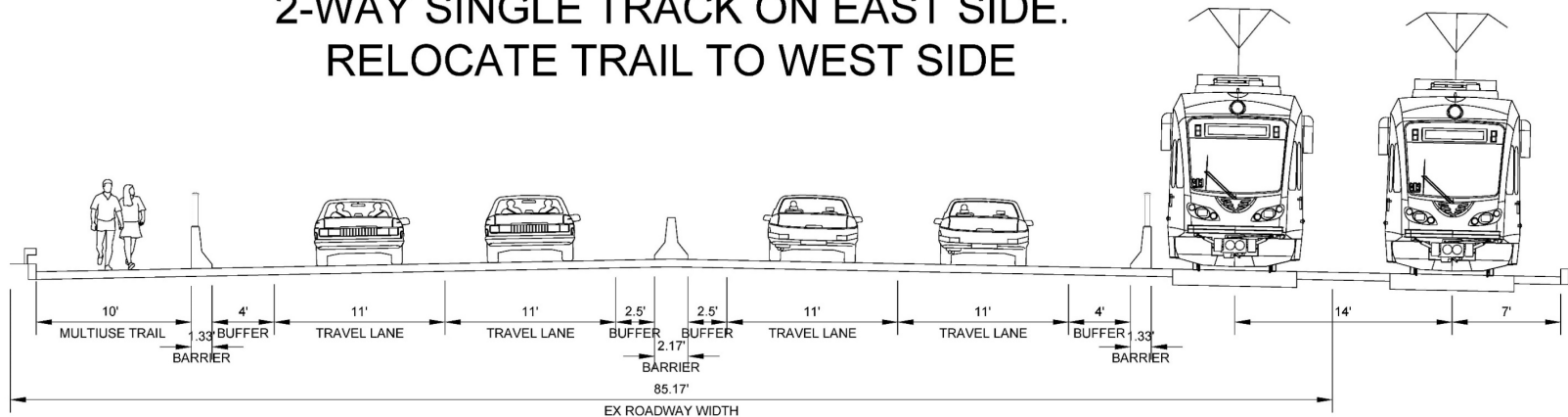
HEART OF AMERICA BRIDGE
EXISTING



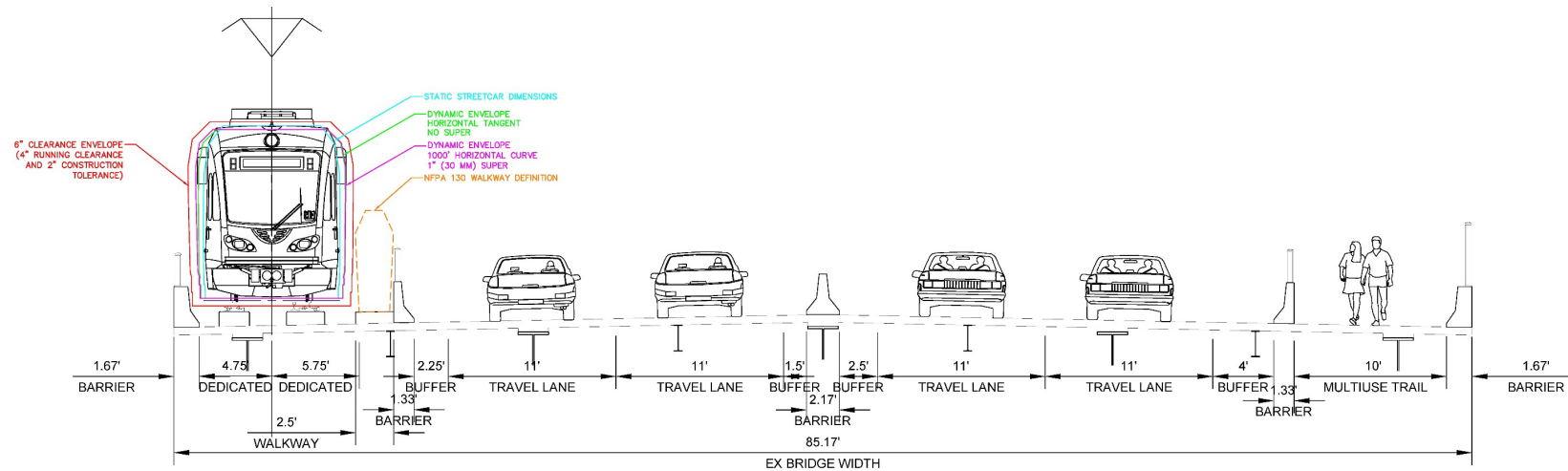
HEART OF AMERICA BRIDGE
EXISTING
AT-GRADE BETWEEN MISSOURI RIVER AND RAILROAD BRIDGES



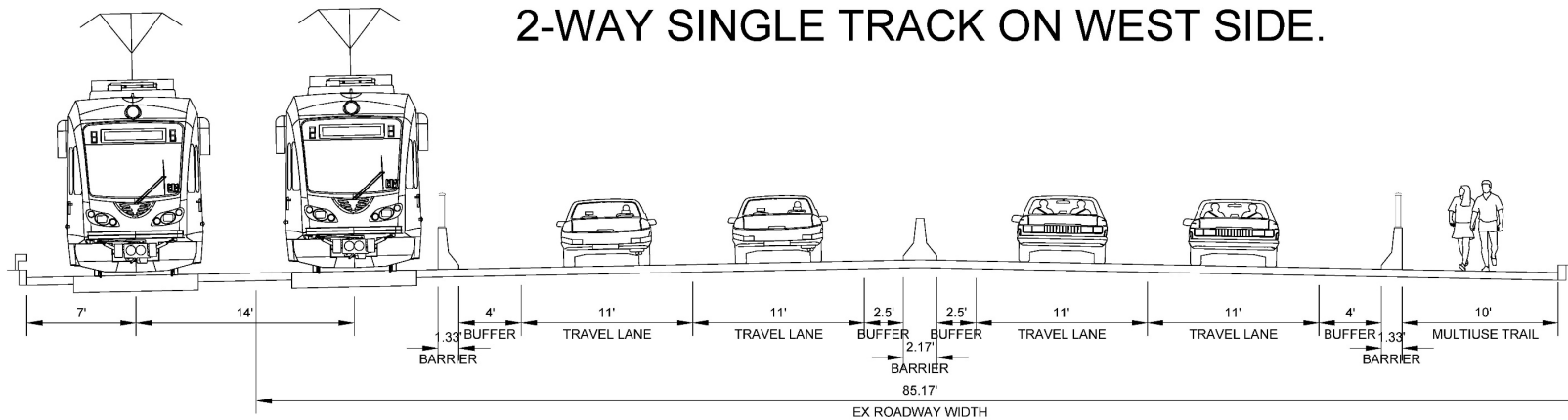
HEART OF AMERICA BRIDGE
 OPTION 1
 2-WAY SINGLE TRACK ON EAST SIDE.
 RELOCATE TRAIL TO WEST SIDE



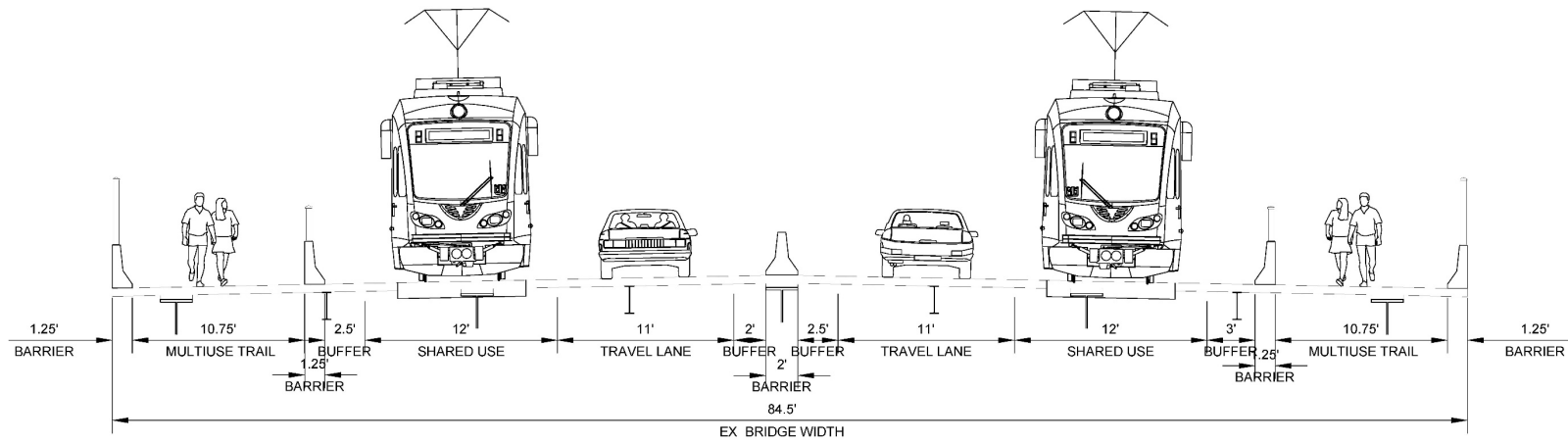
HEART OF AMERICA BRIDGE
 OPTION 1
 SAME AS ABOVE BUT WITH ADDING A TURNOUT AT GRADE



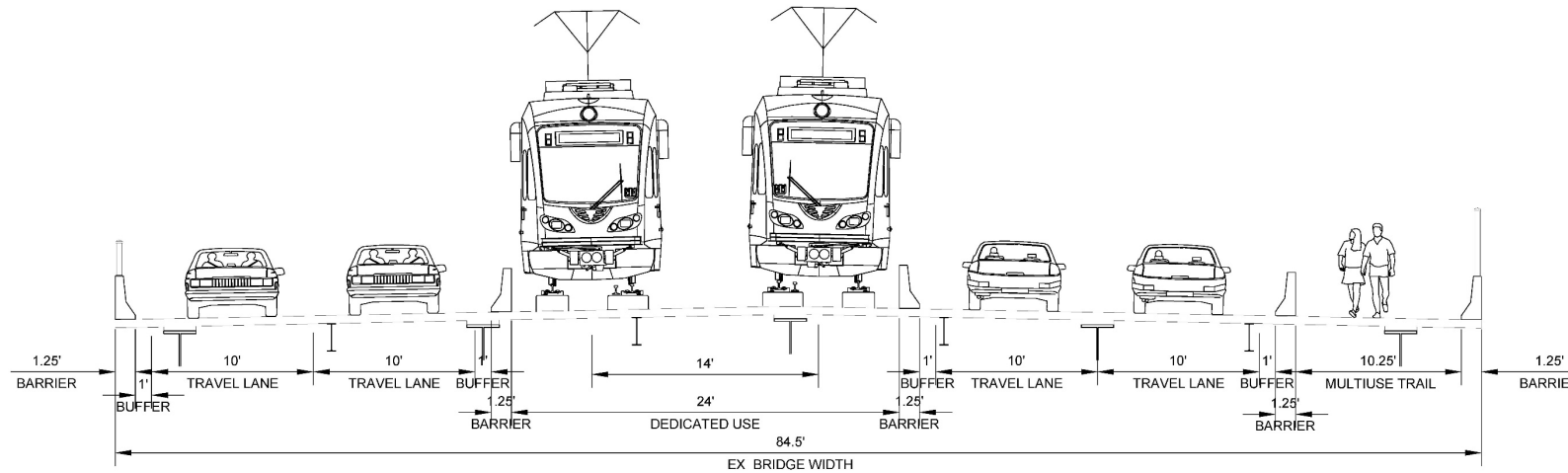
HEART OF AMERICA BRIDGE
 OPTION 2
 2-WAY SINGLE TRACK ON WEST SIDE.



HEART OF AMERICA BRIDGE
 OPTION 2
 SAME AS ABOVE BUT WITH ADDING A TURNOUT AT GRADE



HEART OF AMERICA BRIDGE
 OPTION 3
 LOWERING ROUTE 9 - MIXED TRAFFIC



**HEART OF AMERICA BRIDGE
 OPTION 4
 LOWERING ROUTE 9 - EXCLUSIVE MEDIAN**

Heart of America Bridge Option Summary

Screening Criteria	Option 1 East	Option 2 West	Option 3 Mixed	Option 4 Median
Vehicular Impacts	+	-	●	●
Feasibility and Constructability	- +	+	● -	● +
Operational Flexibility				
Multimodal Integration	+	+	-	-
Transit Routes	-	+	+	+
Bicycle Facilities	-	+	+	+
Pedestrian Facilities				

Project Management Team Discussions



Bike / Ped concerns

Connections to the north and south on east side
Cycle track planned on east side to the north
Debris on trail / proximity to traffic

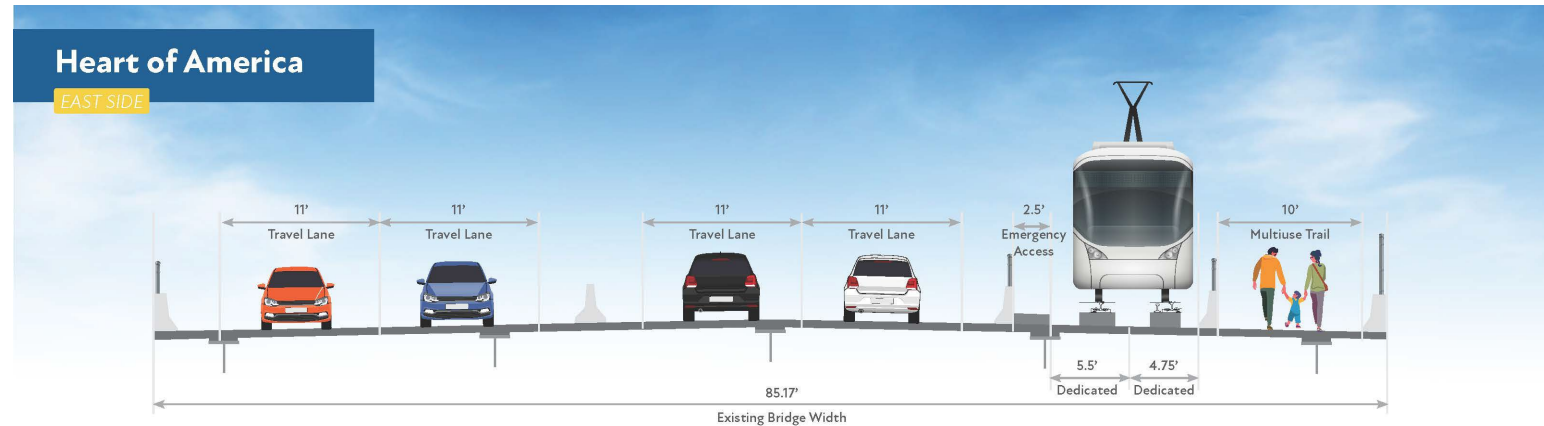


Inspection of HOA Bridge

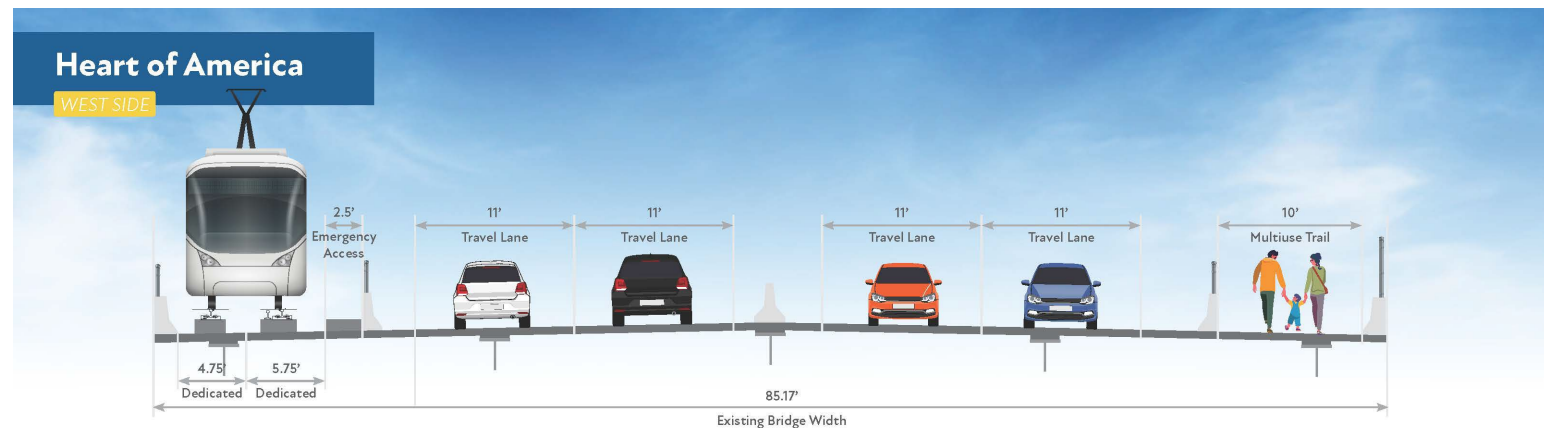
While not fractural critical, MoDOT uses
snooper trucks to inspect
Would require shutting down streetcar for a few
days or other means of inspection

Missouri River Crossing

East Side



West Side





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Public Outreach Findings

Focus Groups



May Online Meeting



June Open House



Summary of Focus Group Meetings

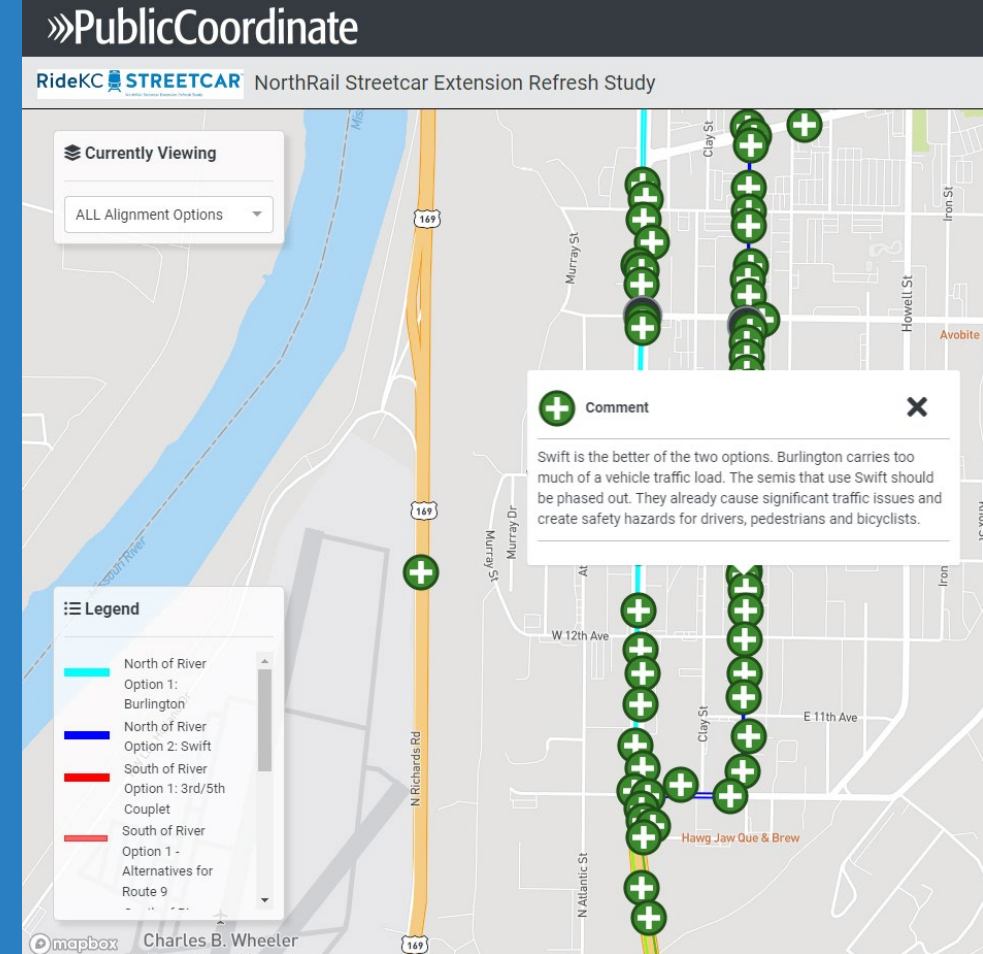
Strong
consensus on
Swift over
Burlington

Preference for
East Side of
Missouri River

3rd/5th Couplet
preferred south
of Missouri
River

Online Public Outreach Findings





- **PublicCoordinate:** interactive web map where users could post comments/reply to each other
- **Survey:** linked from PublicCoordinate site
- Both live from 4/26 – 5/13
- 300+ comments/replies on PublicCoordinate; ~400 survey responses



Online Public Outreach Findings - Summary

- Respondents overwhelmingly in favor of Swift over Burlington (especially NKC residents/workers)
- Only ~30% of respondents were NKC residents/workers (many from KCMO/Clay County)
- Survey respondents suggest that streetcar in NKC would be popular with entertainment/shopping/restaurants, similar to the existing Main Street line usage (less so with commuting)

South of Missouri River

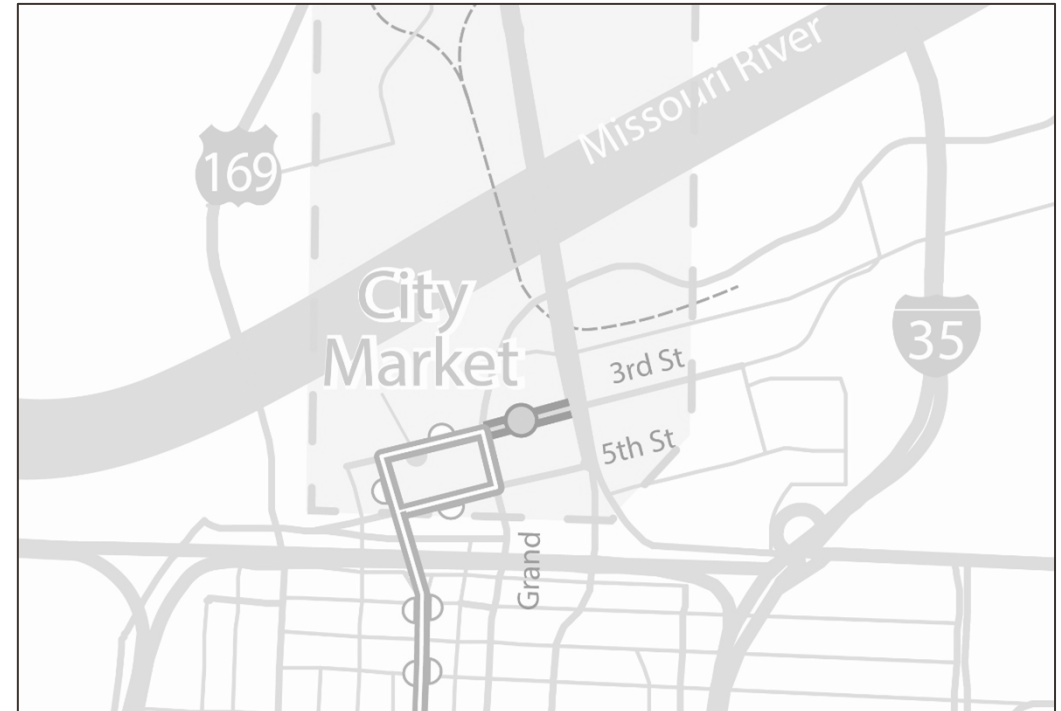
-  Potential Stations
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30 – 6 on votes favoring 3rd/5th Couplet

3rd / 5th Couplet



2-Way 3rd Street



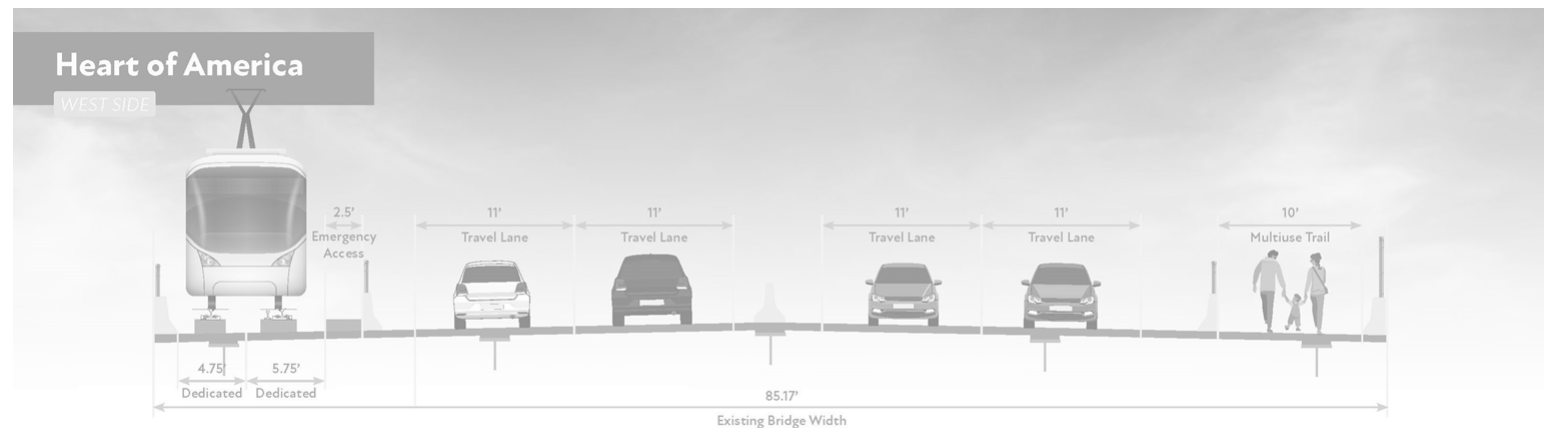
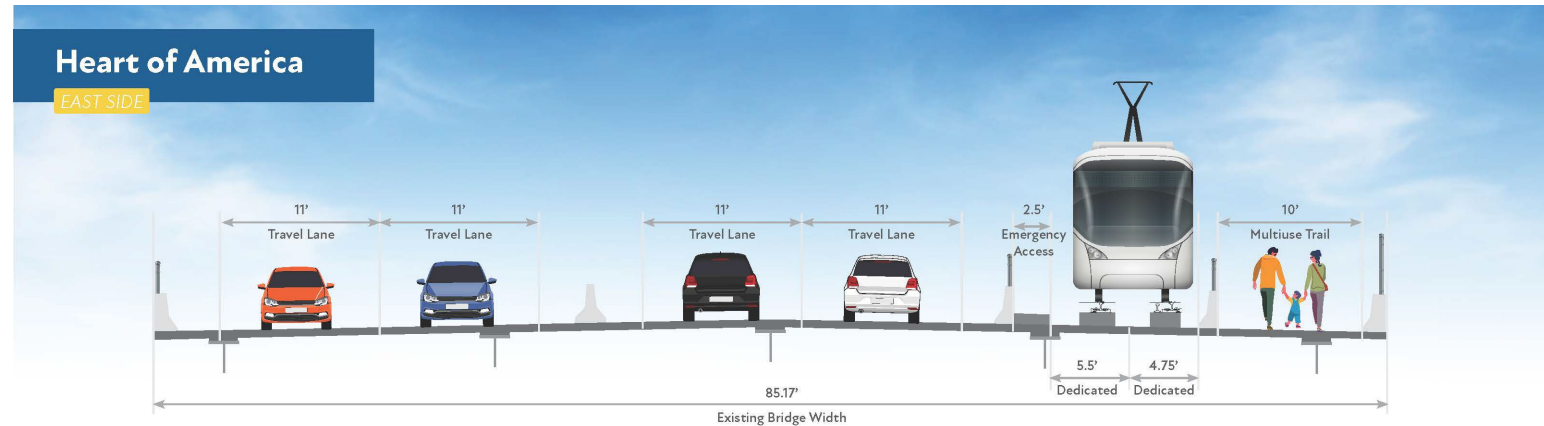
Missouri River Crossing

East Side





39 – 3

**votes favoring
East Side**

West Side

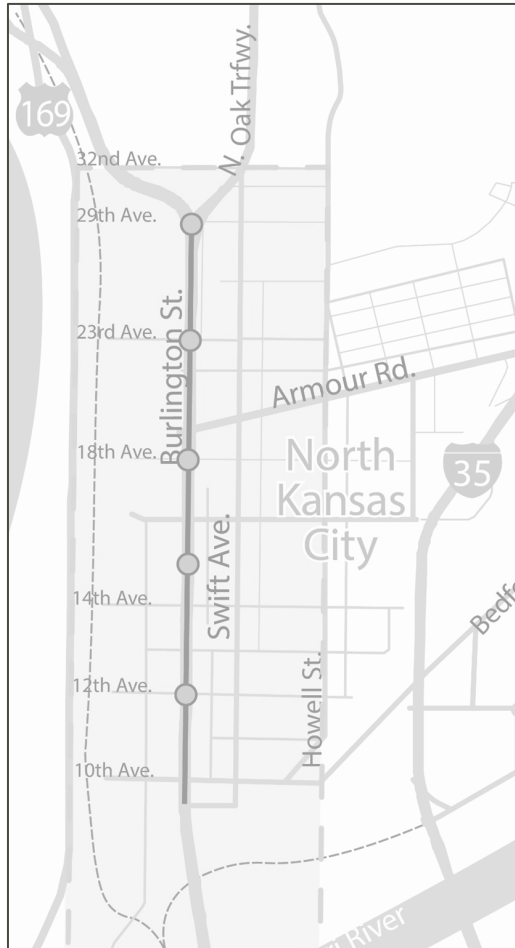


North Kansas City

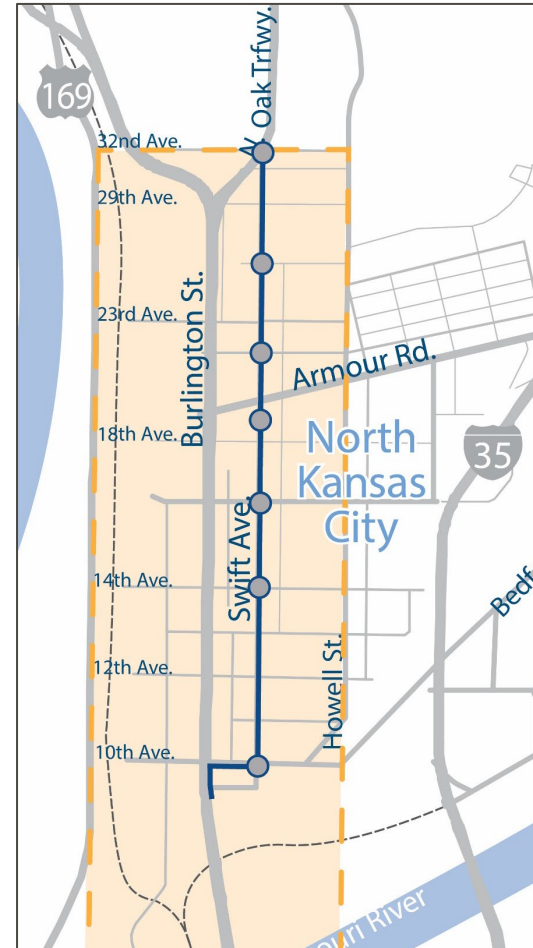
-  Potential Stations
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46 – 12
on votes
favoring Swift

Burlington



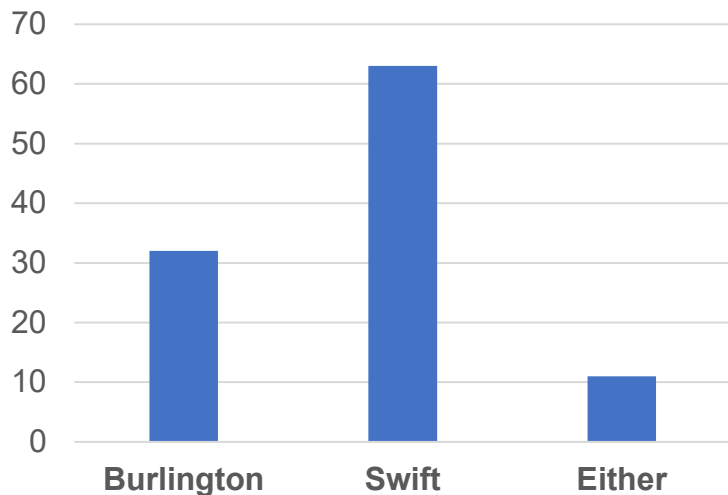
Swift



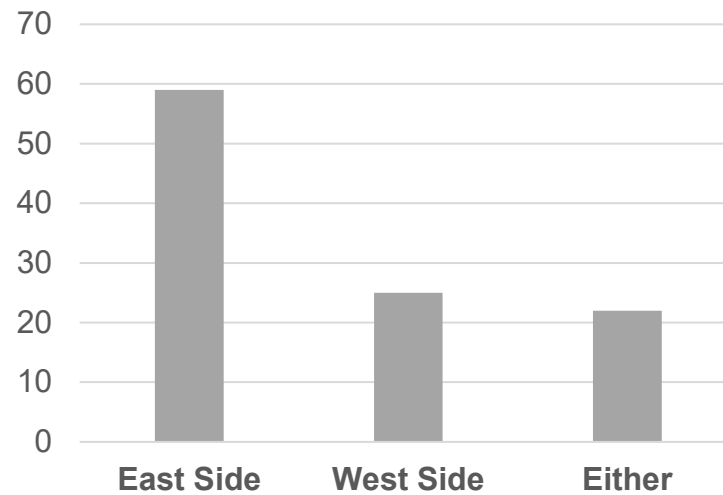
Subsequent Online Survey

KCSA received requests for additional comments following the public meeting. As a result, an online survey was opened to allow additional comments, which mirrored what we had heard.

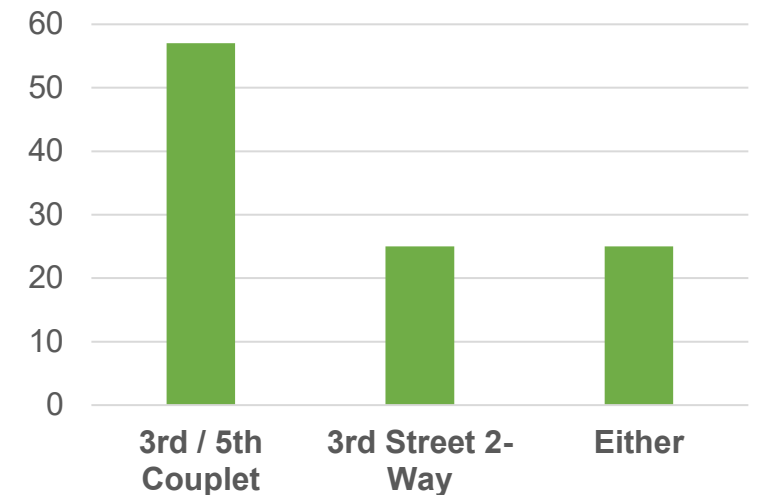
North Kansas City



Missouri River Crossing



South of River





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Cost Estimates

Capital Costs



Operations & Maintenance Costs



Capital Costs (\$M, Current Dollars)

Alternative	2022 Costs (millions)*	Route Miles	Cost per Route Mile
3 rd and 5 th Couplet	\$28.6	0.74	\$38.8
3 rd Street – 2-Way	\$25.7	0.29	\$88.6
HOA East	\$32.9	1.08	\$30.5
HOA West	\$22.0	1.08	\$20.4
Burlington (including vehicles)	\$129.7	1.63	\$55.1
Swift (including vehicles)	\$142.7	1.92	\$50.3
Vehicle Maintenance Facility	\$18.0	N/A	N/A
Total Capital Cost Range		\$195.5 - \$222.1 million	

**Costs include soft costs plus contingencies and ROW estimates. Costs for streetcar vehicles to provide service to River Market are included in the Burlington and Swift alternatives, but not in the cost per mile.*

Operations and Maintenance (O&M)

Route Alignment	Annual O&M Cost
Swift Alignment	\$4.7 - \$7.9M
Burlington Alignment	\$3.2 - \$6.3M

- Assumes 10 to 20-Minute Headways. Could be reduced in off-peak and weekend service
- Operating Costs based on estimated \$250/hour
- Assumes service from North Kansas City to River Market
 - Extending service to Union Station would increase costs
 - As example, the O&M Cost to extend the Swift alignment to Union Station would increase by up to \$4.7 million.



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Comparisons of Alternatives



Summarizing the Differences

South of the River	3 rd /5 th Couplet	3 rd 2-Way	Comments
Bicycle Facilities	✓		3rd Street is a designated bikeway. 2-Way operations may further restrict the ability to provide a buffered/separated bicycle path
Economic Development	✓		3rd/5th Couplet provide greater visibility to Columbus Park with a closer station
Capital Cost (\$M)	\$28.6 M	\$25.7 M	
HOA Bridge	East	West	Comments
Feasibility		✓	Minor clearance issues under Route 9, potential conflict with KCSA Maintenance Facility
Vehicular Impacts	✓		Streetcar operations on the west side of the bridge would require streetcar to cross Route 9 traffic, increasing delays
Operating Flexibility	✓		Streetcar operations on the west side would restrict ability for MoDOT to inspect the HOA Bridge
Capital Cost (Million)	\$32.9 M	\$22.0 M ✓	
North Kansas City	Burlington	Swift	Comments
Employment		✓	Swift has 11% more employees within 1/4-mile
Population		✓	Swift has 32% more population within 1/4-mile
Technical Feasibility		✓	Burlington will require additional permitting and agreements with MoDOT
Transit Running Time	✓		With traffic signal priorities, Burlington will provide a shorter transit time
Auto / Bus / Truck Impacts		✓	With dedicated lanes for Streetcar, congestion on Burlington will significantly increase
Land Use Compatibility		✓	Swift currently has adjacent residential and pedestrian-oriented businesses
Parking / Loading Impacts	✓		Swift has loading docks that will need to be reconfigured
Capital Costs	\$129.70 M ✓	\$142.70 M	Includes vehicles (for premium service)
O&M Costs	\$6.3 M ✓	\$7.9 M	Annual Cost (for premium service)

Locally Preferred Alternative

- Swift Alignment in North Kansas City
- East side of HOA Bridge
 - Requires additional technical feasibility to be completed in the next phase, specifically impact of widening bridge near KCSA Maintenance Facility
- Narrowed Alternatives for South of River
 - Connection to existing system requires further technical feasibility to be completed in the next phase
 - Narrowed alternatives results in a 3rd / 5th Couplet or two-way operations on 3rd Street

Next Steps



Continued focus on funding solution

Local TDD, similar to what was used in Kansas City, isn't enough

Delve into redevelopment opportunities in North Kansas City



Look into advancing environmental (NEPA) and engineering



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Questions

