

DRAFT

Capitol Rice (CSAH 49) Reconstruction

Concept Screening Report

Ramsey County with City of Saint Paul and Capitol
Area Architectural and Planning Board

September 8, 2025

PURPOSE

This memorandum aims to outline the concept evaluation process for the Capitol Rice (CSAH 49) Reconstruction project and document the results of the Concept Screening. A two-part concept evaluation process was undertaken to identify and evaluate Capitol Rice (CSAH 49) improvement concepts. The initial evaluation, called the Phase 1 Screening focused on dismissing concepts that did not meet the project's purpose, goals, and objectives. The remaining concepts were then moved forward into the Phase 2 evaluation that compared the benefits and trade-offs of each alternative in more detail.

The existing conditions, purpose and need framework, goals and objectives, public engagement, and traffic analysis which serve as the foundation for the concept screenings are documented in separate technical memorandums and therefore, will not be repeated here.

METHODS OF CONSIDERATION

PUBLIC AND AGENCY PARTICIPATION

Public and agency participation has guided the development of the improvement concepts and will be critical to the success and results of the Capitol Rice Reconstruction Project. Input from affected local agencies and the public will give credibility to key decisions made during the project. The following are summaries of the public outreach completed during the Phase 1 Engagement. Additional Phase 1 information can be found as part of the Phase 1 Engagement Summary. Phase 2 and Phase 3 engagement efforts are also planned as part of the project, which will occur in 2025.

Project Management Team (PMT)

The study is being led by the PMT, which is comprised of planning and engineering staff from Ramsey County, City of Saint Paul, Capitol Area Architectural and Planning Board, Metro Transit, MnDOT, Capital Region Watershed District, Bolton & Menk, Kimley Horn, Forecast Public Art and 4RM+ULA. The PMT meets monthly to manage and deliver the project to consider all public, stakeholder, and elected official input.

Phase I Engagement

From August to December 2024, the project team gathered feedback on the existing conditions of Rice Street between the John Ireland Boulevard and Pennsylvania Avenue near the Minnesota State Capitol. Members of the public were able to learn more about the project, share their feedback on the current condition of the roadway and find out how to stay involved throughout the process.

Engagement snapshot

- 100 door hanger invitations distributed
- In-person open house: 18 attendees
- Project website
- Community stakeholder group newsletters
- Open house postcard
- Email and text subscription list

- Social media posts

Key takeaways:

Infrastructure priorities

- Roadway lighting was the top priority for vehicle infrastructure.
- Floating bus stops were the top priority for transit infrastructure.
- Separated bike lanes were the top priority for bicycle and pedestrian improvements.
- In terms of streetscaping features, people prioritized community development, art in pedestrian spaces, stormwater management, and wayfinding signage nearly equally.
- For neighborhood design, participants prioritized public eating places, tabled intersections, street prioritizing walking and biking.

Traffic and transportation improvements

- Slow down speed limits, make crosswalks safer, and improve bike lanes.
- Suggestion to create a two-way bike link to the North multi-use path and connect to the bike boulevard on Charles.
- Suggestion to add a left-turn lane from Pennsylvania to Como.
- Address confusing and awkward intersections, specifically at 12th and John Ireland and at Rondo and 12th.

Safety and security enhancements

- Add better lighting and street cameras.
- Address unsafe slip lane at Como and Rice due to fast vehicles and the damage in Rice Street.

Cleanliness and maintenance

- Increase frequency of trash pickup crews.
- Increase foot traffic and cleanliness to decrease crime and ensure businesses are successful.
- Improve parking and accessibility.

Community and business development

- Draw in more restaurants and stores.
- Add more public facilities (eating areas, greenspaces with benches, public restrooms).
- Develop a linear park between the Sears development and Rice.

Phase II Engagement

The purpose of this phase of engagement was to gather feedback on three design concepts for Rice Street:

- Concept 1: Two-way bicycle track on west side, sidewalk on east side
- Concept 2: Shared-use path on west side, sidewalk on east side
- Concept 3: Hybrid option – two-way bicycle track south of University Ave, shared-use path north of University Ave

Engagement snapshot

- Survey (open from June 3 to July 13): 72 responses
- Online comment map: 30 comments

- Virtual open house: 11 attendees
- In-person open house: 20 attendees
- Nine community pop ups: 303 attendees

Key takeaways

Concepts

- Concept 1: Bicycle Track received the highest overall scores, especially for ability to improve bicyclist safety and access.
- Concept 3: Hybrid Bicycle Features performed well in public space and pedestrian safety, but some found it potentially confusing given the transition.
- Concept 2: Shared Use Path ranked lowest overall, primarily due to concerns about bicycle-pedestrian conflicts in a shared space.

Location-specific priorities

- North of University Avenue: Top priorities include a two-way bikeway, shared use path, and public space amenities.
- Mobility Hub at Rice & University: Participants prioritized trees and greenery, public art, and improved lighting.
- Rondo/Rice/John Ireland Intersection: Top comments include safety concerns at the intersection for all modes and a desire for public art and placemaking.

Safety and accessibility

- Strong calls for improved bike and pedestrian safety, including:
 - Dashed green stripes at intersection crossing locations
 - Raised crossings and refuge islands for pedestrian crossings
 - Dedicated bike lanes and better bikeway connectivity

Traffic and design feedback

- Suggestions for traffic calming: roundabouts, more painted crossings, and fewer driveway access points.
- Specific intersections (e.g., Rice and Como, Rice and Winter) drew mixed feedback on access restrictions and suggestions for roundabouts.

Transit

- Suggestions to align bus stops with pedestrian flows and design the street to prevent cars from passing stopped buses.

Business impacts

- Business owners expressed concerns about potential for on-street parking loss and roadway construction impacts.

Public space and greenery

- Strong support for including trees, seating, public art, and maintaining on-street parking.
- Concerns about potential for vegetation creating visibility issues at intersections.

Community

- Emphasis on considering the safety and livability of unhoused individuals during construction.

PHASE 1 EVALUATION & DISMISSED CONCEPTS

SCREENING & EVALUATION PROCESS

This section describes the steps to evaluate the full range of concepts developed for the Capitol Study Area along Rice Street (MSAS 236 south of University Avenue and CSAH 49 north of University Avenue). Due to inconsistent right-of-way and existing land uses within the study area, the Capitol Rice corridor was segmented into two sections. This was done to allow for the development and comparison of different concepts/typical sections that considered variable conditions (number of travel lanes, turn lanes, on- and off-street bicycle facilities, boulevard widths, etc.). The corridor segmentation is as follows:

- Segment 1 (A-A): John Ireland Boulevard to University Avenue
- Segment 2 (B-B): University Avenue to Pennsylvania Avenue



Figure 1: Capitol Rice Street Project Area Map

The evaluation process for each of the two corridor segments is based on the project goals, purpose, and needs developed by the PMT.

Project Goals

The Capitol Rice Street (MSAS 236, CSAH 49) Reconstruction project will seek to accomplish the following project goals:

- Improve pedestrian safety and access
- Improve bicycle safety and access
- Improve transit and multimodal operations
- Improve vehicle safety and operations
- Design an enhanced, sustainable public realm
- Design for existing and changing land uses
- Utilize partnerships and have a transparent process

Table 1. Goals and Objectives

	Goal	Measure
1.	Improve pedestrian safety and access	Pedestrian level of service
		Reduced crossing distance
		Pedestrian level of traffic stress
		Improved visibility of pedestrians to drivers
		Reduced pedestrian-vehicle conflict points
		Connections to east-west pedestrian improvements
2.	Improve bicycle safety and access	Connections to existing and planned bike routes
		Designated or multi-use bicycle routes
		Bicycle level of traffic stress
3.	Improve transit and multimodal operations	Multimodal access at transit facilities
		Improved transit service
		Incorporating METRO G Line BRT enhanced service
		Accommodating staging efforts during LRT route closure
		Incorporating new mobility hub
4.	Improve vehicle safety and operations	Reduced traffic speeds
		Reduced intersection crash rate and severity
		Reduced corridor crash rate and severity
		Maintenance of traffic operations along Rice Street
		Access to Rice Street
		Intersection level of service
		Reduced vehicle to vehicle conflict points
5.	Design an enhanced, sustainable public realm	Improved street lighting
		Enhancements reflect area's unique history and character
		Provides opportunity for pedestrian amenities
		Provides space to accommodate street trees
		Incorporation of green infrastructure and corridor greening
6.	Design for existing and changing land uses	Plan for sustainable streetscape maintenance
		Supports mitigation plan for construction phase impacts
		Updates to parking requirements and availability near businesses
		Supports business vitality along the corridor
		Ease of freight access and deliveries
		Aligns with identified growth and development opportunities and needs
7.	Utilize partnerships and have a transparent process	Managing private property impacts
		Health and active living support
		Workforce and business support
		Cost/benefit analysis
		Constructability/long term maintenance
		Public support to carry forward
		Agency support to carry concept forward

Table 2. Cross-Section Dimension Assumptions

Cross-Section Elements & Zones	Preferred Width (ft)	Minimum Width (ft)
Frontage	3	2
PAR	8	5
Sidewalk Buffer (between bikes and pedestrians)	6	2
Bike Lane (One Way)	6	5
Bike Lane (Two Way, Per Lane)	5	4
Street Buffer	6+	5.5
Parking Lane	8	8
Through Lane	11	11
BRT Station (exclusive of curb)	11.5	9.5
Sidepath	12	10

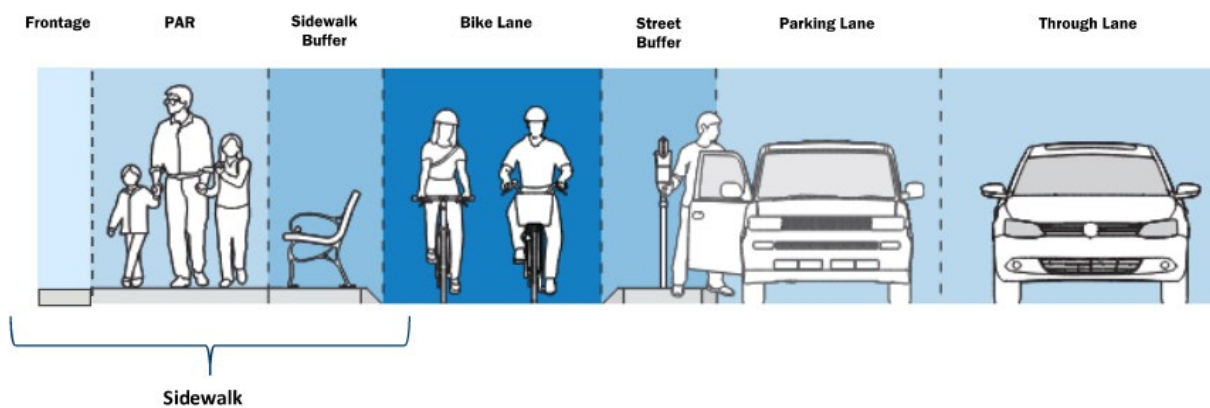


Figure 2: Separated Bike Lane Zones from the AASHTO Guide for the Development of Bicycle Facilities 5th Ed. combined with the MnDOT Facility Design Guide.

The common elements considered in each concept are shown in Figure 1 and described in Table 2. When considered, a sidepath replaces the PAR, sidewalk buffer, and bike lane. A 6 ft buffer is assumed to be the minimum width required for street trees. An even larger buffer can accommodate more pedestrian amenities and placemaking features. A 5.5 ft buffer is assumed to be the minimum width to accommodate street lights, utilities, and roadside signs.

Figure 2 depicts a street-level separated bike lane, but the bicycle facilities for Rice Street are assumed to be sidewalk-level.

CONCEPT ALTERNATIVES

Table 3. Capitol Rice Street (MSAS 236, CSAH 49) Concept Alternatives

Section 1 (A-A) Alternatives	
No Build	a) Does not support goals

A. 5 Vehicle Lanes, Sidepath on 1 Side, Sidewalk on 1 Side	<ul style="list-style-type: none"> a) Supports Goal # 6 b) Can support portions of Goals # 1, 2, 3, 4 c) Minimally supports Goal # 5 d) Does not support Goal # 7
B. 3 Vehicle Lanes & 1-way Separated Bike Lanes/Sidewalks on Both Sides	<ul style="list-style-type: none"> a) Supports Goal # 1, 3, 5 b) Can support portions of Goals # 2, 4, 6, 7
C. 3 Vehicle Lanes & 2-way Separated Bike Lane on One Side, Sidewalks on Both Sides	<ul style="list-style-type: none"> a) Supports Goal #1, 2, 3, 5, b) Can support portions of Goals # 4, 6,
D. 3 Vehicle Lanes & Sidepaths on Both Sides	<ul style="list-style-type: none"> a) Supports Goals # 3, 5, b) Can support portions of Goals # 1, 2, 4, 6, 7
D2. 3 Vehicle Lane, Sidepath on 1 Side, Parking on 1 Side	<ul style="list-style-type: none"> a) Supports Goals # 2, 3, 5, 6, 7 b) Can support portions of Goals # 1, 4
Section 2 (B-B) Alternatives	
No Build	<ul style="list-style-type: none"> a) <i>Does not support goals</i>
E. 3 Vehicle Lanes & 1-way Separated Bike Lanes/Sidewalks on Both Sides	<ul style="list-style-type: none"> a) Can support portions of Goals # 2, 4, b) Minimally supports Goals # 1, 3, c) Does not support Goal # 5, 6, 7,
F. 3 Vehicle Lanes & 1-way Separated Bike Lanes/Sidewalks on Both Sides, Parking on One Side	<ul style="list-style-type: none"> a) Can support portions of Goals # 1, 2, 4 b) Minimally supports Goals # 6, 3, c) Does not support Goals # 5, 7
G. 3 Vehicle Lanes & 2-way Separated Bike Lane on One Side, Sidewalks on Both Sides	<ul style="list-style-type: none"> a) Supports Goals # 1, 2, 3, b) Can support portions of Goals # 4, 5, 7 c) Minimally supports Goal # 6
H. 3 Vehicle Lanes & 2-way Separated Bike Lane on One Side, Sidewalks on Both Sides, Parking on One Side	<ul style="list-style-type: none"> a) Supports Goals # 1, 2, 6, b) Can support portions of Goals # 3, 4, 7 c) Does not support Goal # 5
I. 3 Vehicle Lanes & Sidepaths on Both Sides	<ul style="list-style-type: none"> a) Supports Goal # 5 b) Can support portions of Goals # 1, 2, 3, 4, 6, 7
J. 3 Vehicle Lanes & Sidepaths on Both Sides, Parking on One Side	<ul style="list-style-type: none"> a) Can support portions of Goals # 1, 2, 4, 5, 6, 7 b) Minimally supports Goal # 3
K. 3 Vehicle Lanes & Sidepath on 1 Side/Parking on Both Sides	<ul style="list-style-type: none"> a) Can support portions of Goals # 1, 2, 3, 4 b) Does not support Goals # 5, 6, 7
L. 2 Vehicle Lanes & Sidepaths/Parking on Both Sides	<ul style="list-style-type: none"> a) Supports Goal # 5 b) Can support portions of Goals # 1, 2, 3, c) Minimally supports Goal # 6 d) Does not support Goals # 4, 7
M. 3 Vehicle Lanes & 2-way Separated Bike Lane/Parking on Both Sides	<ul style="list-style-type: none"> a) Can support portions of Goals # 1, 2, 3, 4 b) Minimally supports Goal # 5 c) Does not support Goals # 6, 7

N. 3 Vehicle Lanes & Sidepath on 1 Side, Parking and Sidewalk on One Side	a) Supports Goals # 1, 3, 5, 6, 7 b) Can support portions of Goals # 2, 4
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PHASE 1 EVALUATION & DISMISSED CONCEPTS

Based on technical analysis and input from the PMT, elected officials and the public, a Phase 1 screening was completed to identify fatal flaws and discuss concepts that do not meet the purpose and need framework. The Phase 1 screening generally dismissed concepts that did not meet safety and operations, mobility and access, community and agency framework, and financial responsibility goals. The table below identifies concepts from the Phase 1 Screening that are not recommended to be carried forward into the detailed Phase 2 evaluation.

Table 4. Phase 1 Screening of Corridor Concepts

Dismissed Concepts	Conflicting Goals	Reason Dismissed*
No Build		a) <i>Does not support goals</i>
A. 5 Vehicle Lanes & Sidepaths on Both Sides	5, 6, 7	a) Does not provide enough space for trees b) Does not provide frontage to avoid impacts to adjacent properties and ensure constructability c) Large amount of impervious surface d) Does not meet goal 7 with agency support.
B. 3 Vehicle Lanes & 1-way Separated Bike Lanes/Sidewalks on Both Sides	2, 7	a) Disconnected from planned adjacent cycling routes which include a sidepath on the west side b) 2 separated bike lanes require additional plowing by public works staff
D. 3 Vehicle Lanes & Sidepaths on Both Sides	2	a) Bicycle access on the east side does not connect with the planned network.
Section 2 (B-B) Alternatives		
No Build		a) <i>Does not support goals</i>
E. 3 Vehicle Lanes & 1-way Separated Bike Lanes/Sidewalks on Both Sides	1, 2, 3, 5, 6, 7,	a) Does not provide enough space for lighting, signage, or trees b) Unable to maintain PAR width between BRT stations and businesses c) Large amount of impervious surface d) Disconnected from planned adjacent cycling routes which include a sidepath on the west side e) 2 separated bike lanes require additional plowing by public works staff

F. 3 Vehicle Lanes & 1-way Separated Bike Lanes/Sidewalks on Both Sides, Parking on One Side	1, 2, 3, 5, 6, 7,	<ul style="list-style-type: none"> a) Does not provide enough space for lighting, signage, or trees b) Large amount of impervious surface c) Disconnected from planned adjacent cycling routes which include a sidepath on the west side d) 2 separated bike lanes require additional plowing by public works staff
H. 3 Vehicle Lanes & 2-way Separated Bike Lane on One Side, Sidewalks on Both Sides, Parking on One Side	2, 5, 6	<ul style="list-style-type: none"> a) Large amounts of impervious surface b) Minimum bike lane width e) Limited frontage
I. 3 Vehicle Lanes & Sidepaths on Both Sides	2, 6	<ul style="list-style-type: none"> a) Bicycle and pedestrian LOS on a sidepath depends on projected user volumes. b) Bicycle access on the east side does not connect with the planned network. f) Limited frontage.
J. 3 Vehicle Lanes & Sidepaths on Both Sides, Parking on One Side	2, 5, 6	<ul style="list-style-type: none"> a) Bicycle and pedestrian LOS on a sidepath depends on projected user volumes. b) Bicycle access on the east side does not connect with the planned network. c) Large amounts of impervious surface. g) Limited frontage.
K. 3 Vehicle Lanes & Sidepaths/Parking on Both Sides	5, 6, 7	<ul style="list-style-type: none"> a) Bicycle and pedestrian LOS on a sidepath depends on projected user volumes. b) Does not provide enough space for lighting, signage, or trees c) Does not provide frontage to avoid impacts to adjacent properties and ensure constructability d) Large amounts of impervious surface
L. 2 Vehicle Lanes & Sidepaths/Parking on Both Sides	4, 6, 7	<ul style="list-style-type: none"> a) Bicycle and pedestrian LOS on a sidepath depends on projected user volumes. b) Turning movements are hindered without a central turn lane. c) Congestion caused by more on-street parking and 2-lane segment likely to decrease access to local businesses.
M. 3 Vehicle Lanes & 2-way Separated Bike Lane/Parking on Both Sides	5, 6, 7	<ul style="list-style-type: none"> a) Does not provide enough space for lighting, signage, or trees b) Does not provide frontage to avoid impacts to adjacent properties and ensure constructability c) Bicycle and pedestrian LOS on a sidepath depends on projected user volumes. d) Large amounts of impervious surface

PHASE 2 EVALUATION

The Phase 2 screening analysis was conducted from April 2025 through July 2025 for each remaining concept. Three concepts were progressed from the Phase 1 Screening and renamed for clarity and ease of communication.

- “Concept 1” (former Concepts C & G): 3-Lane, Sidewalks, Two-way Separated Bike Lane One Side, Boulevard, No Parking
- “Concept 2” (former Concepts D2 & N): 3-Lane, Sidewalk, Sidepath, Boulevard, Parking Bays
- “Concept 3” (former Concepts C & N): 3-Lane, Sidewalks, Two-Way Separated Bike Lane on One Side south of University Ave, Sidepath on One Side north of University Ave, Boulevard, Parking Bays north of University Ave

Concept visuals and details that were used for public engagement and general communication of concept details and differences are included in **Appendix B**.

To identify a final preferred concept, each remaining concept was screened against further technical analysis, minimum and preferred design standards, public engagement findings, alignment with project goals, and detailed feedback from the PMT. Additional as-needed stakeholder meetings were held to vet specific elements of each concept.

Based on findings from the Phase 2 Screening process, Concepts 1 and 2 were dismissed from consideration, as noted in **Table 5**.

Table 5 – Level 3 Screening Dismissed Concepts

Dismissed Concepts	Reason for Dismissal
Concept 1 3-Lane, Sidewalks, Two-way Separated Bike Lane One Side, Boulevard, No Parking	<div>a) Didn’t allow for parking</div> <div>b) Minimal space for corridor greening/streetscape north of University Ave</div> <div>c) Limited space for corridor lighting, signing and amenities north of University Ave</div>
Concept 2 3-Lane, Sidewalk, Sidepath, Boulevard, Parking Bays	<div>a) Shared use space for pedestrians and bicyclists south of University Ave likely to have reduced PLOS and BLOS due to the high pedestrian generators surrounding the corridor</div>

During the July 2025 PMT meeting, attendees confirmed results from the Phase 2 Screening and selected Concept 3 to be the preferred concept, as noted in **Table 6**.

Table 6 – Preferred Concept

Preferred Concept	Reason
Concept 3 3-Lane, Sidewalks, Two-Way Separated Bike Lane on One Side south of University Ave, Sidepath on One Side north of University Ave, Boulevard, Parking Bays north of University Ave	<ul style="list-style-type: none"> a) Prioritizes bike and pedestrian accessibility over cars b) New dedicated bike accommodation c) Improved pedestrian access and crossings d) Provides opportunities for trees and stormwater management throughout the corridor e) The hybrid of bicycle facilities allows: <ul style="list-style-type: none"> 1) Dedicated bike facilities throughout the corridor, even in the more constrained right-of-way 2) Better fit with accommodating future BRT facilities 3) More able to include on-street parking



Figure 3: Rendering of Preferred Concept 3, John Ireland Boulevard to University Avenue



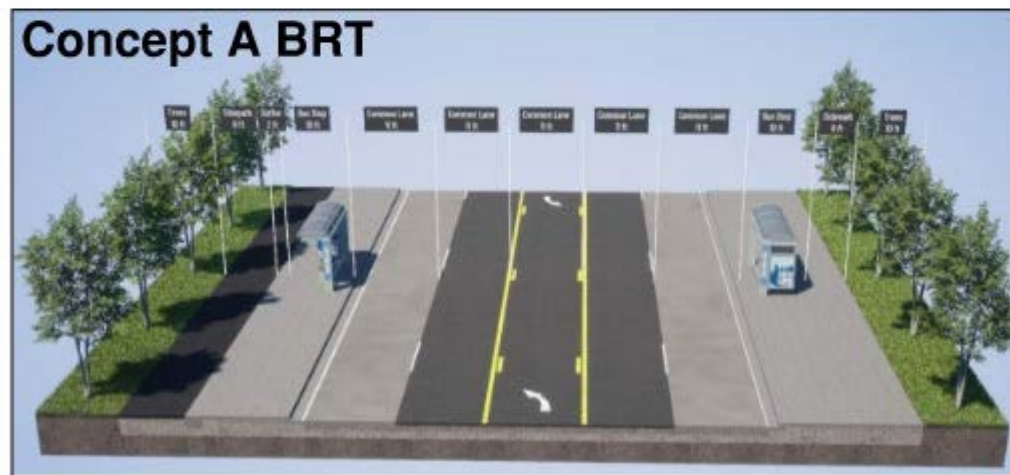
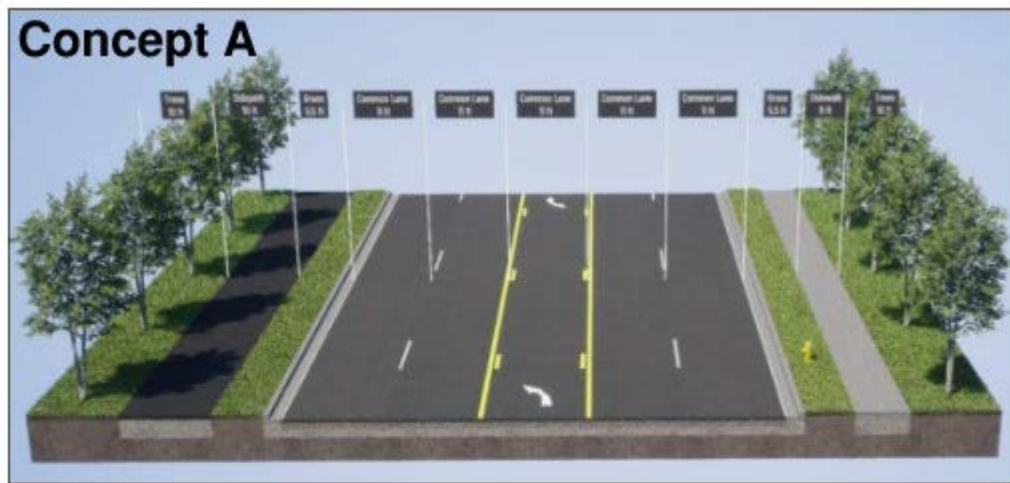
Figure 4: Rendering of Preferred Concept 3, University Avenue to Pennsylvania Avenue

Appendix A – Phase 1 Screening Concepts



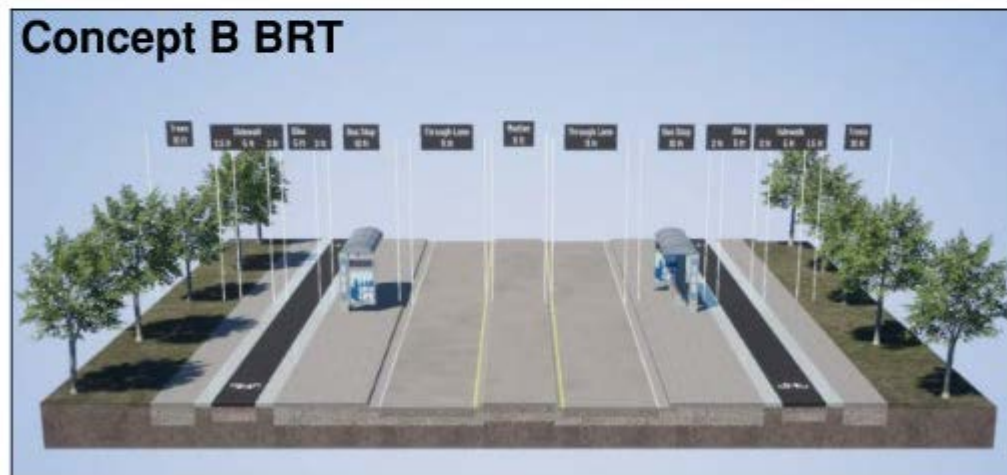
Concept A

5-Lane Roadway, Sidepath



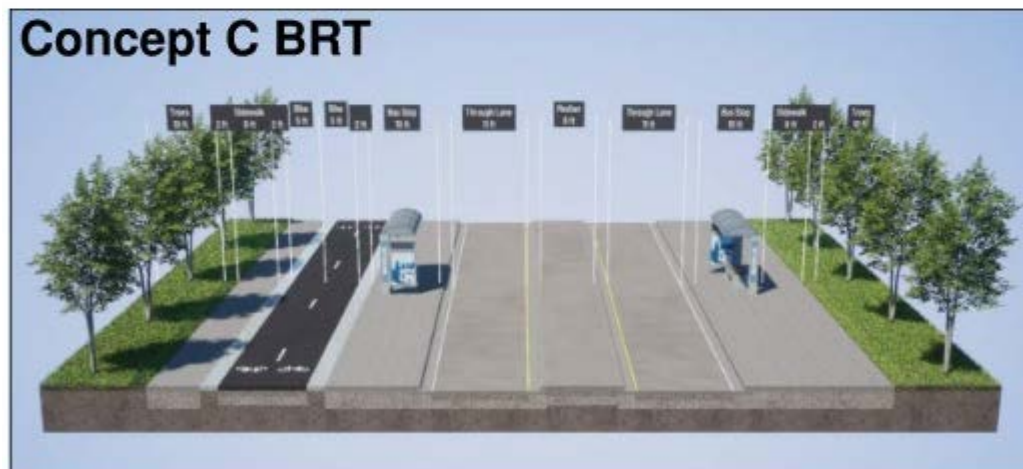
Concept B

3-Lane Roadway, One-way Separated Bike Lane



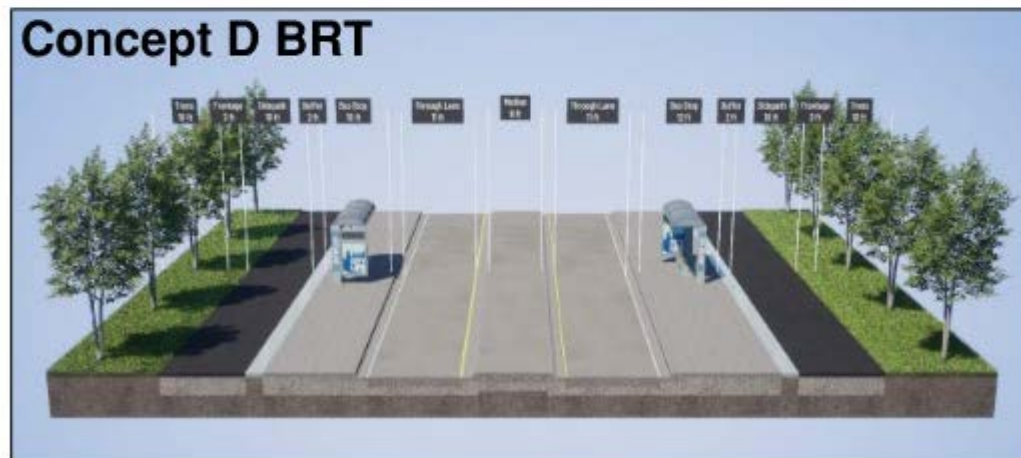
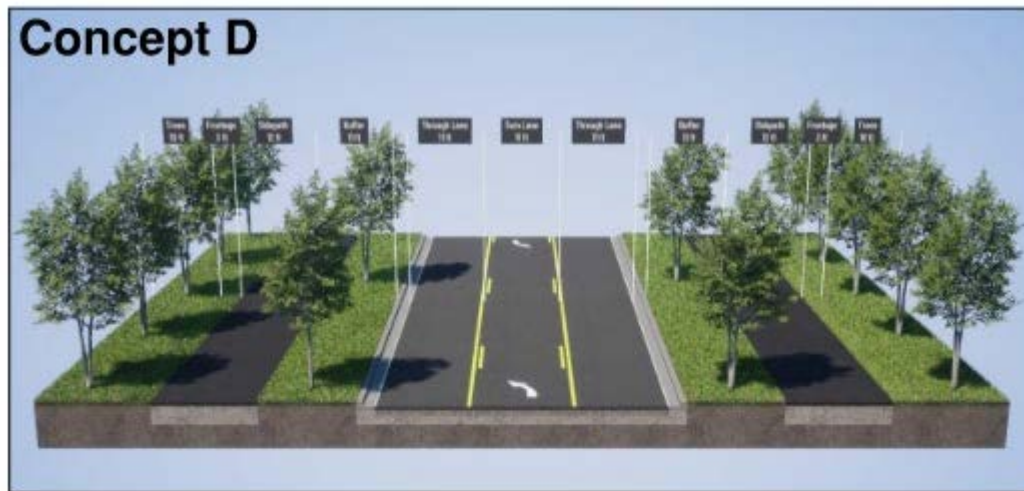
Concept C

3-Lane Roadway, Two-way Separated Bike Lane



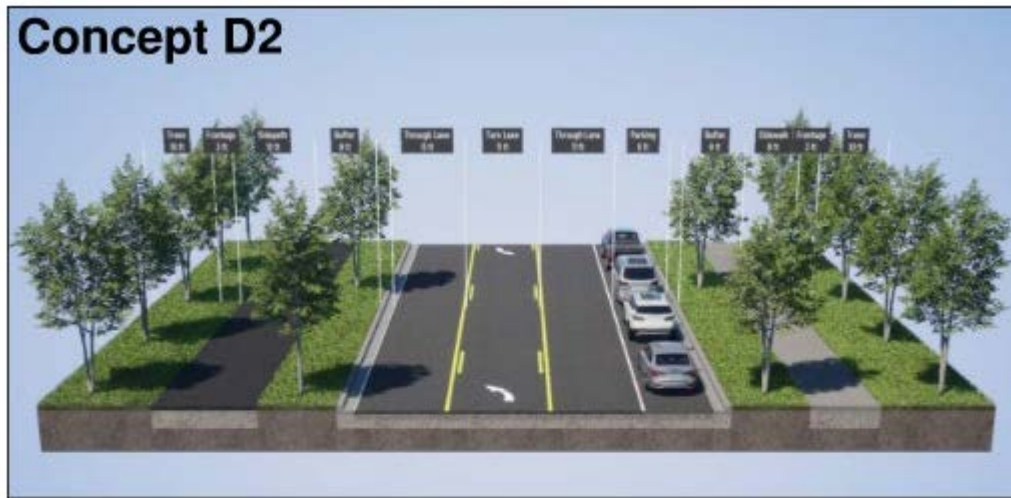
Concept D

3-Lane Roadway, Sidepath on Both Sides



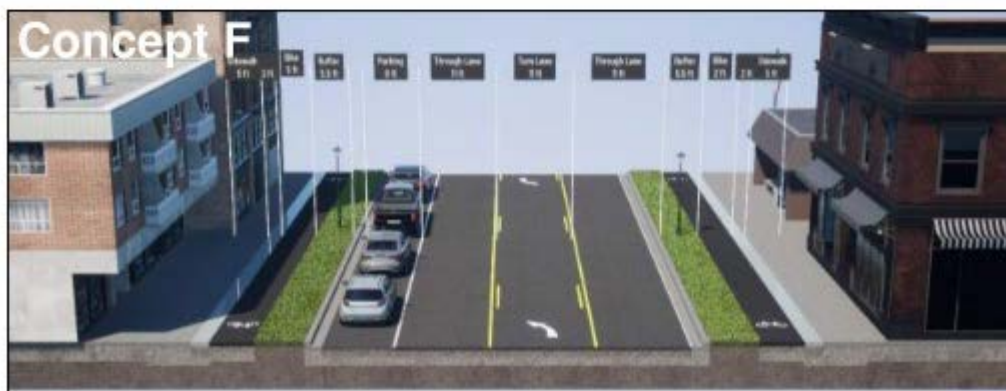
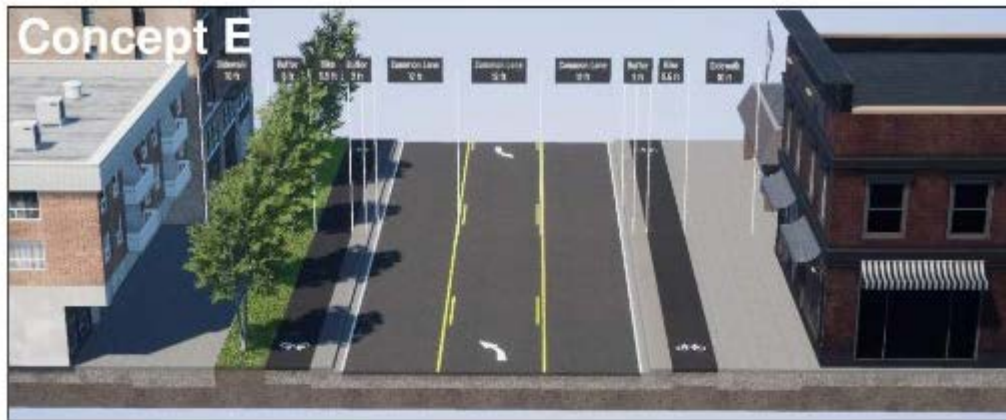
Concept D2

3-Lane Roadway, Sidepath



Concepts E & F

3-Lane Roadway, One-way Bike Lanes



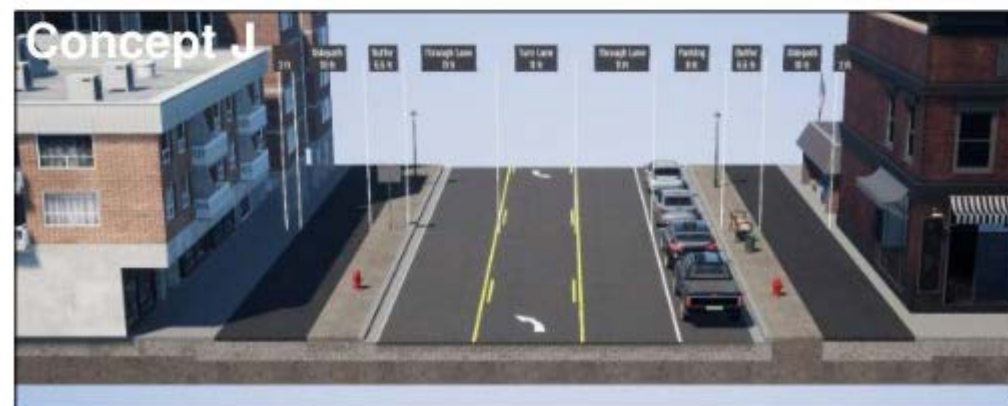
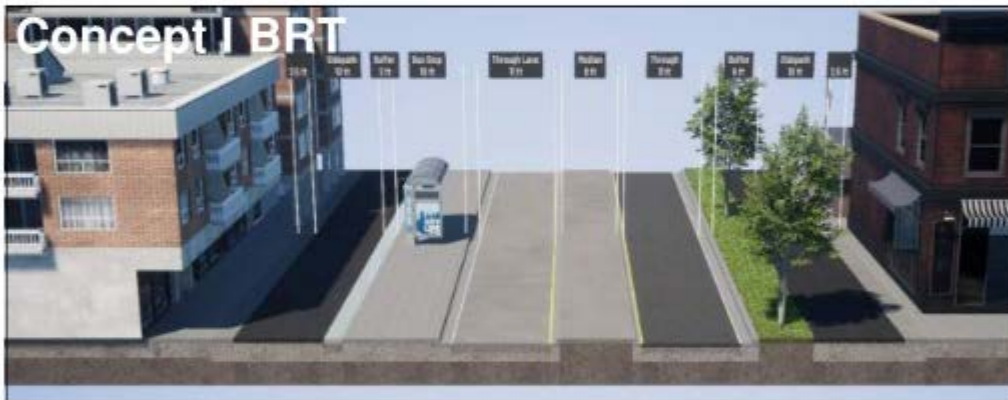
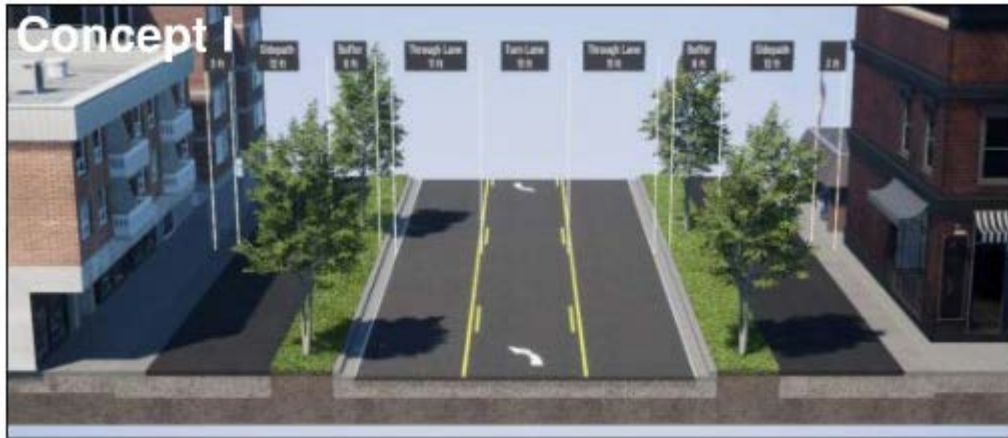
Concepts G & H

3-Lane Roadway, Two-way Separated Bike Lanes



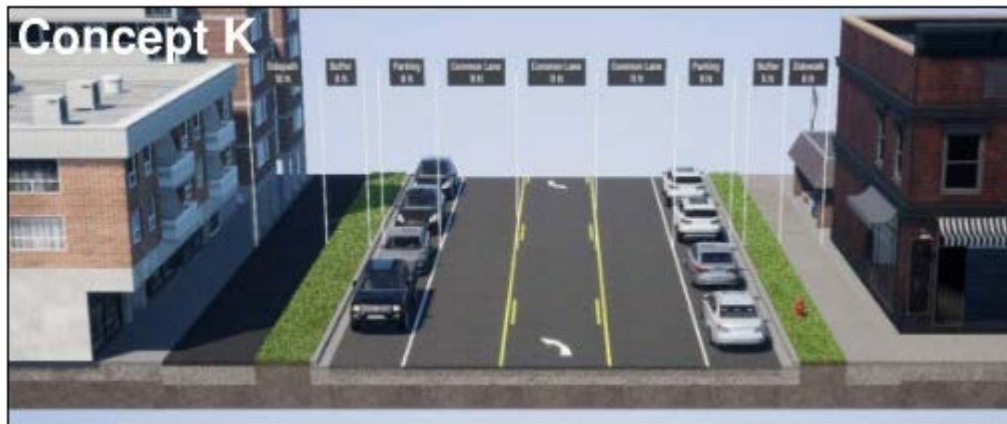
Concepts I & J

3-Lane Roadway, Sidepath on Both Sides



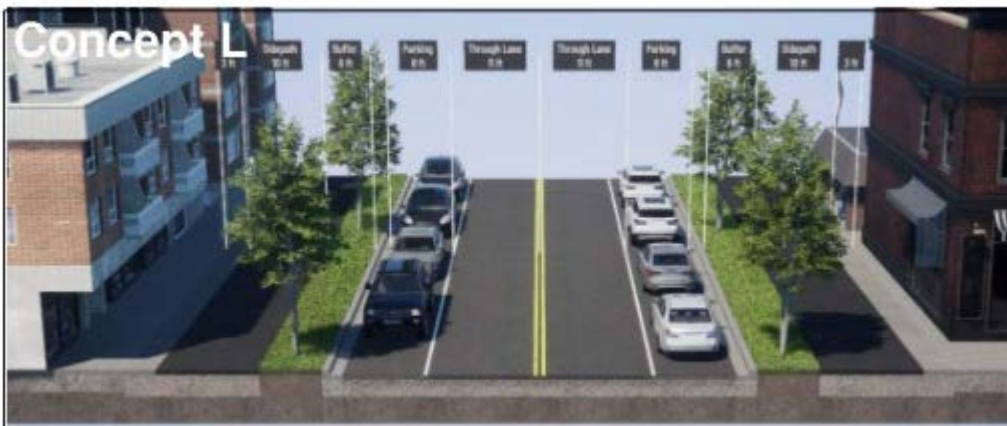
Concept K

3-Lane Roadway, Sidepath, Parking on Both Sides



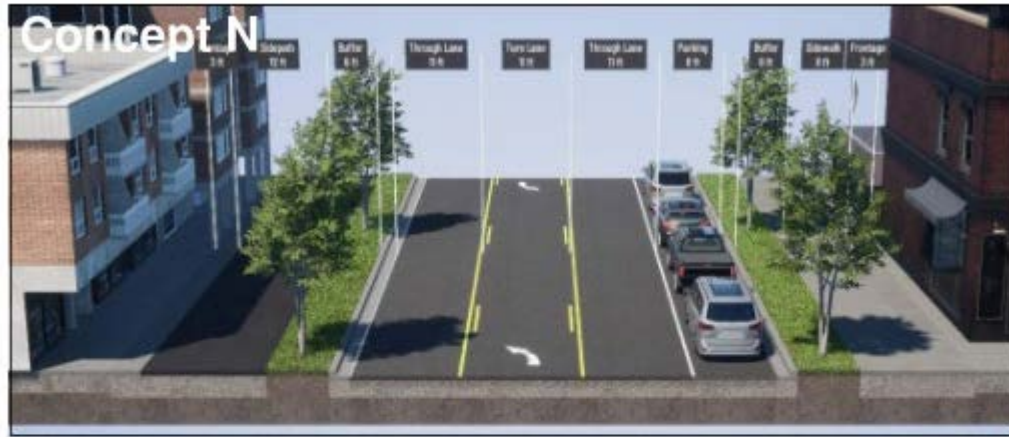
Concept L

2-Lane Roadway, Sidepath and Parking on Both Sides



Concept N

3-Lane Roadway, Sidepath, Parking on One Side



Appendix B – Phase 2 Screening Concepts



Concept 1: Bicycle track

- 3-lane roadway, including left turn lanes
- Two-way cycle track
- Separate sidewalk space
- Medians at Charles Avenue and south of Fuller Avenue
- Boulevard spaces to allow for trees and greening

The medians at Charles Avenue and south of Fuller Avenue will keep drivers from darting around stopped buses. It also serves as a pedestrian refuge so people would only need to cross one lane of traffic at a time.

See the layout on the tables for a more detailed view of this concept.



Concept 2: Shared use path

- 3-lane roadway, including left turn lanes
- Shared use path on the west, sidewalk on the east
- Medians at Charles Avenue and south of Fuller Avenue
- Boulevard spaces to allow for trees and greening

The medians at Charles Ave and south of Fuller Avenue will keep drivers from darting around stopped buses. It also serves as a pedestrian refuge so people would only need to cross one lane of traffic at a time.

See the layout on the tables for a more detailed view of this concept.



Concept 3: Hybrid bicycle features

- 3-lane roadway, including left turn lanes
- Two-way cycle track from John Ireland Boulevard to University Avenue
- Shared use path from University Avenue to Pennsylvania Avenue
- Medians at Charles Avenue and south of Fuller Avenue
- Boulevard spaces to allow for trees and greening

The medians at Charles Ave and south of Fuller Avenue will keep drivers from darting around stopped buses. It also serves as a pedestrian refuge so people would only need to cross one lane of traffic at a time.

See the layout on the tables for a more detailed view of this concept.

