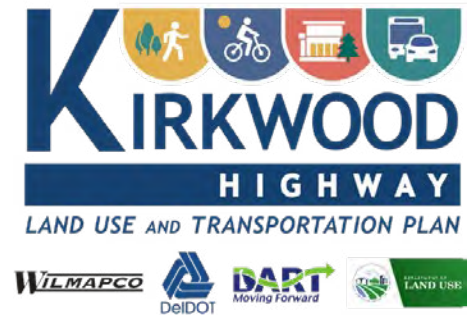


KIRKWOOD HIGHWAY STUDY BASICS

Welcome to the Alternatives Public Workshop for the development of the Kirkwood Highway Corridor Land Use and Transportation Plan!

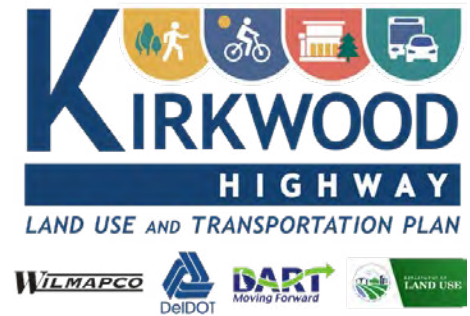


The **purpose** of the Kirkwood Highway Corridor Land Use and Transportation Plan is to create a cohesive plan that will integrate land use and transportation recommendations to:



KIRKWOOD HIGHWAY STUDY BASICS

Welcome to the Alternatives Public Workshop for the development of the Kirkwood Highway Corridor Land Use and Transportation Plan!

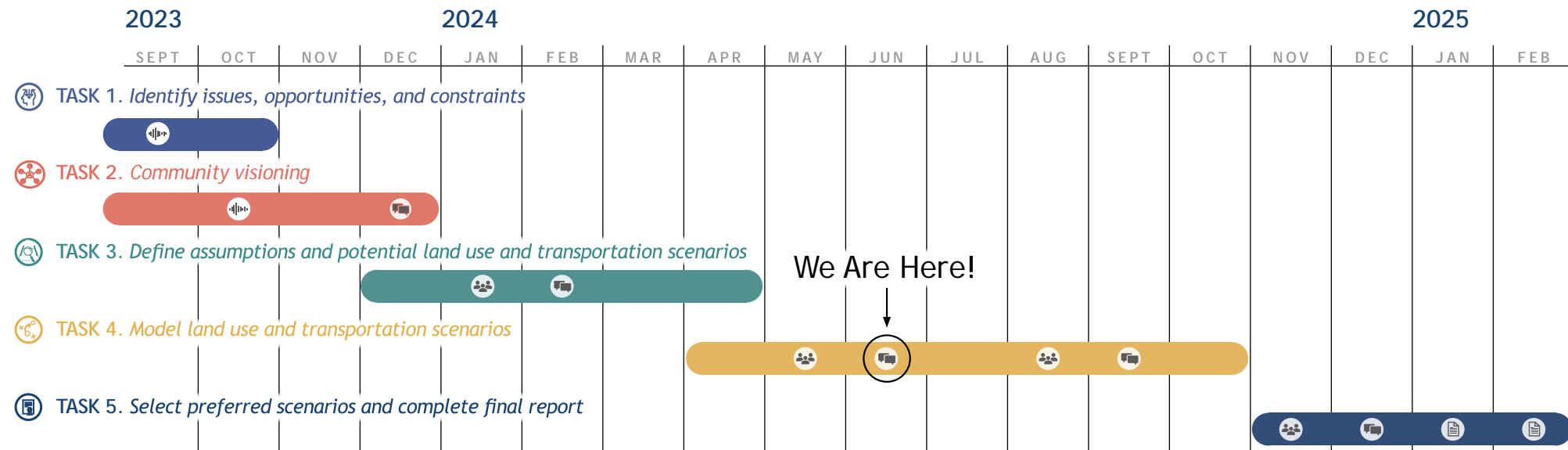


This workshop is designed for participants to:

- Learn how scenario planning was used to develop alternatives for potential improvements and initiatives
- Provide input about potential improvements and initiatives that are being considered for Kirkwood Highway
- Learn about next steps and share your thoughts

Project Schedule

Listening Tour Advisory Committee Meeting Public Meeting Major Deliverable



ADVISORY COMMITTEE

PROJECT PROCESS



The Advisory Committee is one part of the overall public engagement process. Feedback from both the Advisory Committee and Public Workshops will inform the Kirkwood Highway Land Use and Transportation Plan.

Role of Advisory Committee

- Advisory Committee Members are providing feedback and input to the project team.
- Advisory Committee Members are providing information, experiences, and local knowledge to assist the project team.
- The project team is using the input of the Advisory Committee Members, as well as all other public input, to make land use and transportation recommendations.
- The Advisory Committee is not a decision-making body and will not make recommendations.

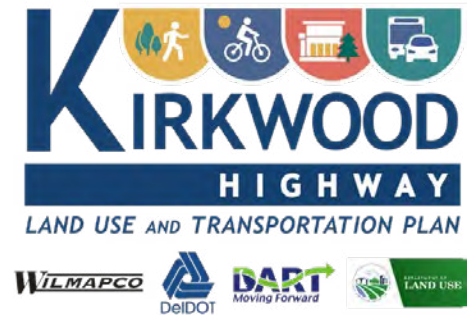
The Advisory Committee met on May 22nd.
The next meeting is targeted for August.



Organization/Office	Name
NCC Chamber of Commerce	Alysse Bortolotto
Town of Elsmere	Steven Martin
Western YMCA	Chris Ryan
Office of State Planning Coordination	Dave Edgell
City of Newark	Mike Fortner
Delaware State University	Darren Blackston
Civic League for New Castle County	Bill Dunn
DeI Park Manor	Paul Benicky
Hyde Park Civic Association	Jenn Ruebush
Mill Creek Fire Company	Nicholas J. Baronie, Fire Chief
United Way	Laura Gendreau (Stand By Me)
Delaware Black Chamber	Ayanna Khan
Committee of 100	Troy Brestel
Latin American Community Center	Jose Lopez
Freedom Center	Jody Hougentogler

VISIONING WORKSHOP

VISION STATEMENT

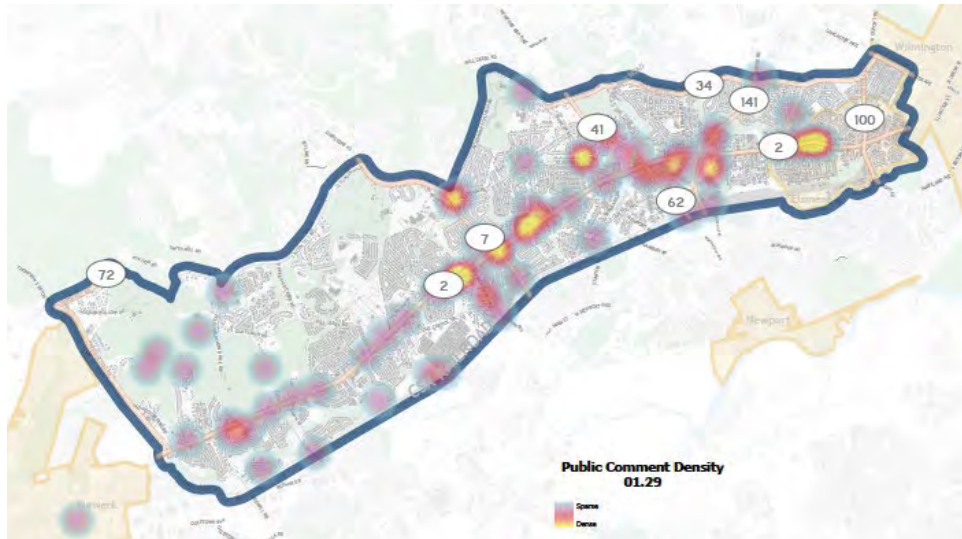


Kirkwood Highway should become a **multimodal** corridor that serves a variety of **compact community** and **business centers** between Newark and Wilmington.

- Transportation facility design elements, reflective of the context of the different areas along the corridor, should discourage high traffic speeds and promote safe access for all ages and abilities to destinations by walking, bicycling, rolling, and transit while managing congestion levels.
- Economic development efforts should focus on facilitating a transition from auto-oriented design to more bikeable and walkable places that mix affordable community-serving retail and services with housing opportunities that serve the corridor's diverse clientele.
- Both public and private properties should integrate landscaping and open space.
- Connected networks serving all modes should link Kirkwood Highway's community and business centers to adjacent neighborhoods and resources such as schools and parks.

SCENARIO PLANNING

RECAP FROM THE PREVIOUS WORKSHOPS



We've heard interest in:

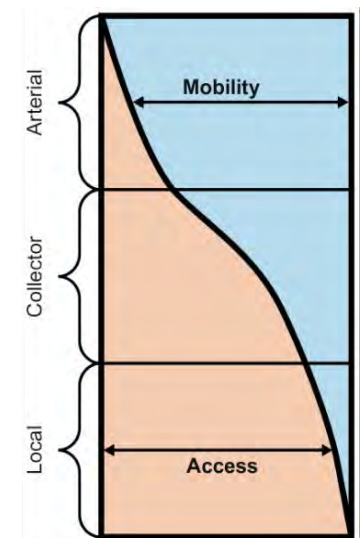
- Bus Rapid Transit / Light Rail Transit
- Service roadways / boulevards
- Bicycle connectivity
- Speed management
- Affordable housing
- Retail center reinvestment
- Shorter travel times



We've discussed how Kirkwood Highway is currently a **STROAD**, which struggles to provide both access and mobility.

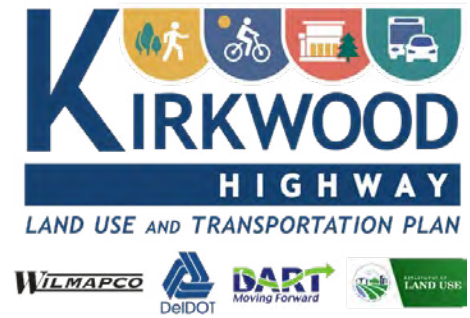
We developed three scenarios that turn a STROAD into a STREET or ROAD

- New Business as Usual (Road)
- Transit Boulevard (Street)
- Multimodal Corridor (Street)

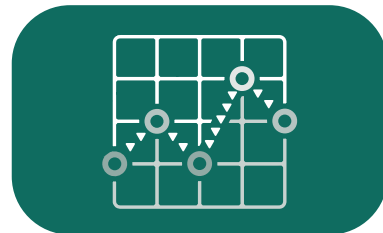


SCENARIO PLANNING

DETAILED CONSIDERATIONS



As we have begun to develop alternatives for the Kirkwood Highway Land Use and Transportation Plan, based upon Scenario Planning and the feedback received, we have identified **7 topics** that require further descriptions and analysis:



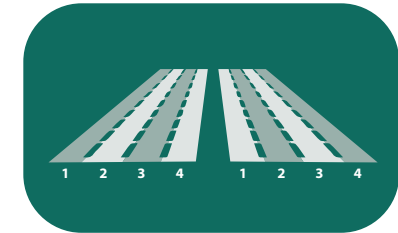
Land Use and
Market Analysis



Transit



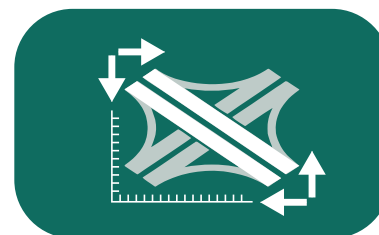
More Accessible
Pedestrian/Bicycle
Connections



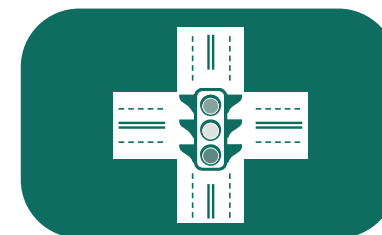
Appropriate Number
of Lanes



Roundabouts



Right-Sizing the SR 2 and
SR 141 Interchange

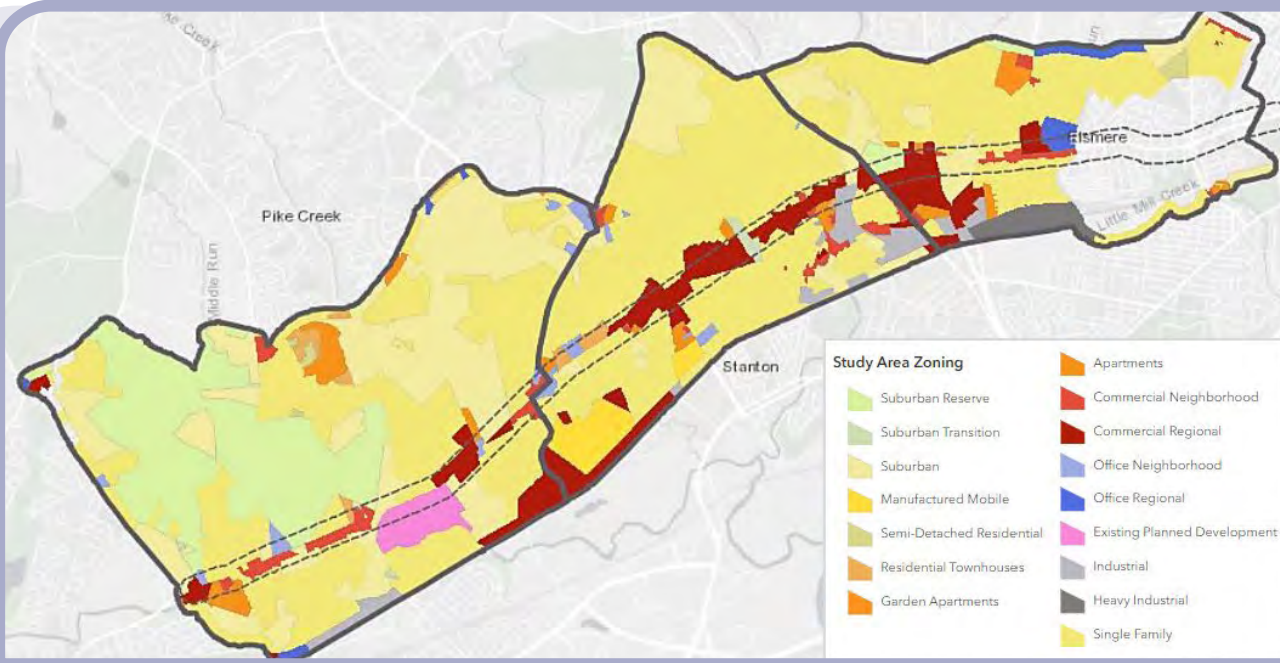


Major Intersections

SCENARIO PLANNING



MARKET ANALYSIS/LAND USE



The old Delaware Park administrative building is slated to be demolished and replaced with 179 apartments and supporting retail

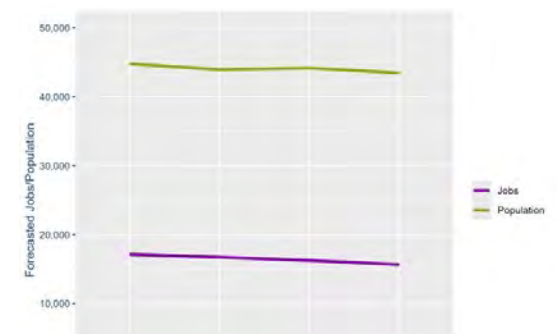
Stakeholder feedback indicates substantial interest in reinvestment in private commercial properties but wariness of increased density.

Mixed-use development would be most appropriate in aging commercial centers with Commercial Regional or Commercial Neighborhood zoning (both of which allow residential development).

Population and employment are projected to decrease

The Kirkwood Highway study area currently has approximately 45,000 residents and 17,000 jobs.

The adopted forecasts for the study area project a loss of about 1,300 residents and 1,400 jobs over the next 30 years.

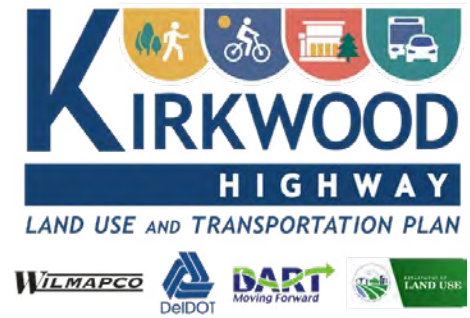


Kirkwood Highway Study Area
Employment and Population Projections

SCENARIO PLANNING



MARKET ANALYSIS/LAND USE



Commercial → residential conversions can be a win-win

Despite the projected decline in population, the Kirkwood Highway market analysis indicated that there may be market demand for roughly 1,000 new dwelling units in the study area—with appropriate catalysts.

Commercial vacancy rates nationwide are remaining high in the post-pandemic conditions. Converting commercial properties to residential use is one way to provide workforce housing opportunities, whether through repurposing or demolition and rebuilding.

The NCC2050 Comprehensive Plan and implementing legislation (such as Ordinance 24-057) are seeking to facilitate commercial-to-residential redevelopment.

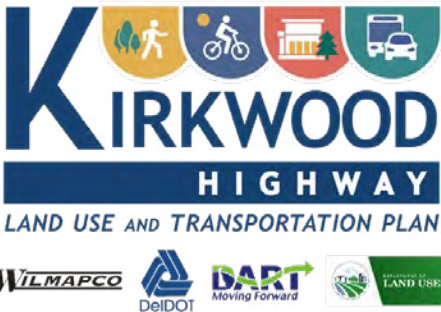


Example of a commercial → residential conversion

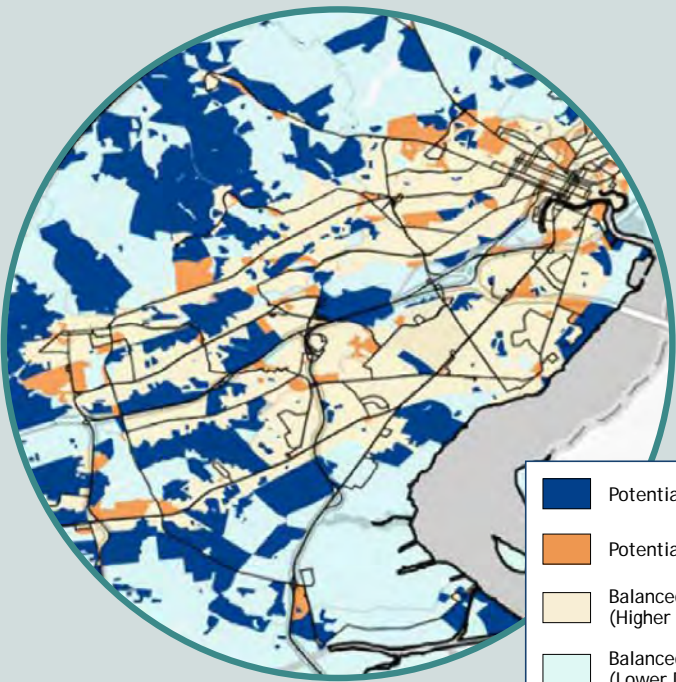
SCENARIO PLANNING



TRANSIT



The Transit Boulevard scenario analysis considered three levels of transit service investment: Transformative BRT, Basic BRT, and Enhanced Transit.



DTC’s 2023 DART Reimagined study shows that the Kirkwood Highway corridor currently has predominantly balanced supply/demand for transit indicating that current transit supply is appropriately meeting transit demand.

	Transformative BRT	Basic BRT	Enhanced Transit
Continuous sidewalk/bike facilities	✓		
Consistent design/landscaping	✓		
Fully dedicated travelway for BRT vehicles	✓		
Queue jumpers / “RED” lanes	✓	✓	
Limited-stop (i.e., express) service	✓	✓	
Transit signal priority	✓	✓	✓
BRT route / vehicle branding	✓	✓	✓
High-quality BRT stations	✓	✓	✓
Connected vehicle technologies	✓	✓	✓
Off-board fare collection	✓	✓	✓

Transformative BRT

Dedicated express bus lanes, typically within the median with extensive pedestrian amenities



Basic BRT

Limited-stop express bus service typically with “queue jump” lanes and enhanced pedestrian facilities



Enhanced Transit

High quality pedestrian facilities & transit stops, transit signal priority

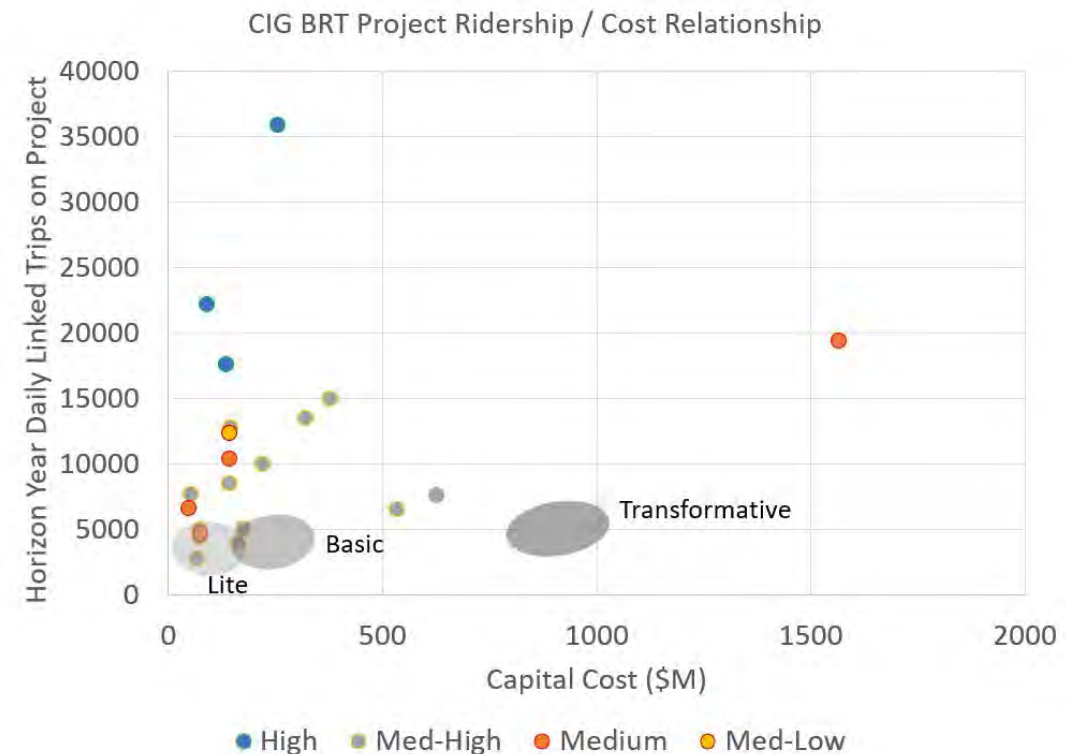
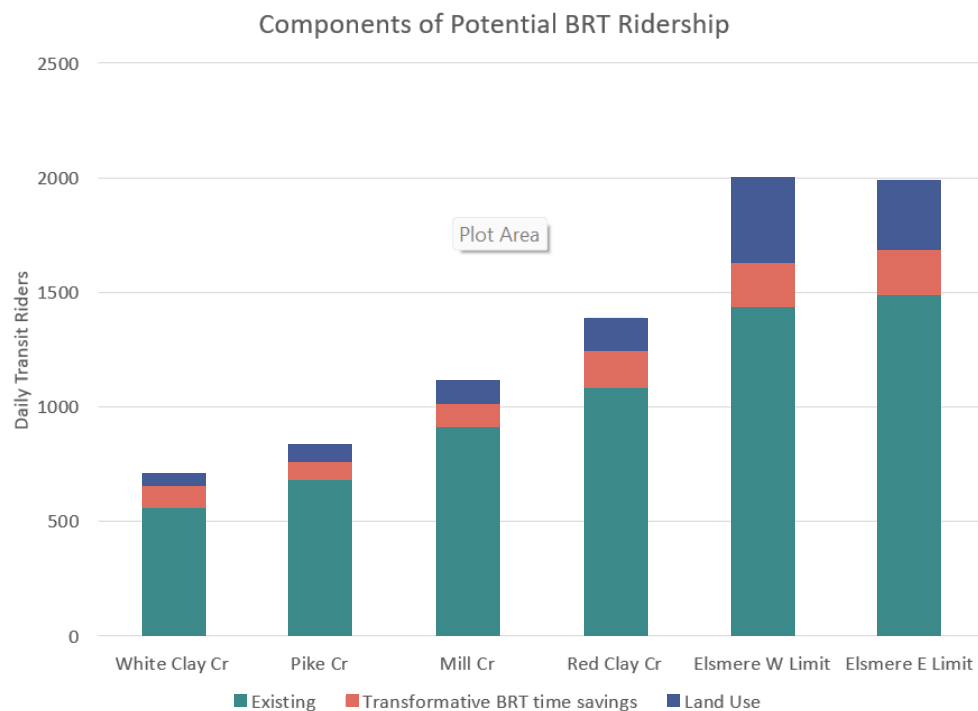


SCENARIO PLANNING



TRANSIT: WHY NOT BRT?

We estimated how transit ridership along Kirkwood Highway would increase at several locations along SR 2 based on both time savings for Transformative BRT and potential new transit-oriented development at/near BRT stations (~1,000 new units with Transformative BRT, per the market analysis).



We have about 4,000 corridor riders today. Transit forecasting suggests we could possibly increase that by about 20% with Transformative BRT; somewhat less with Basic BRT.

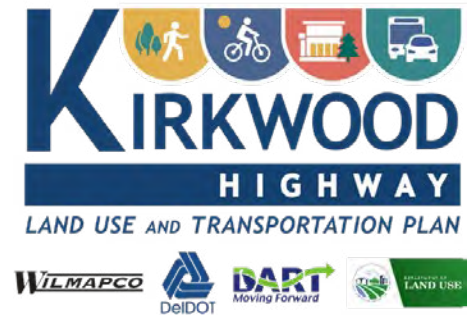
The cost to construct Transformative BRT on Kirkwood Highway is likely well in excess of \$500M which would not be cost effective.

The cost to construct Basic BRT is likely over \$200M which would also not be cost effective.

SCENARIO PLANNING



TRANSIT: ENHANCED TRANSIT ELEMENTS



Enhanced Transit Elements, with a budget <\$200M, could be cost-competitive for Federal funding.

The study team will consider what enhanced transit elements are most appropriate for Kirkwood Highway, building off the DART Reimagined recommendations, including:

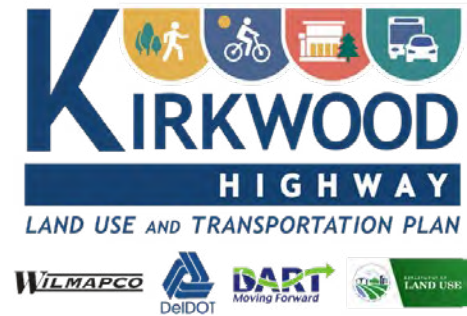
- New Route 56 to connect Prices Corner with the Churchman's Crossing area
- Micro-transit services
- Enhanced bus shelters
- Improved pedestrian access to stops/shelters
- Transit signal priority?
- In-line bus stops vs. pullout bays?



SCENARIO PLANNING



ACCESSIBLE PEDESTRIAN/BICYCLE CONNECTIONS



Path / Trail Framework

The New Castle County Bicycle Plan provides key recommendations for connections between Newark and Wilmington:

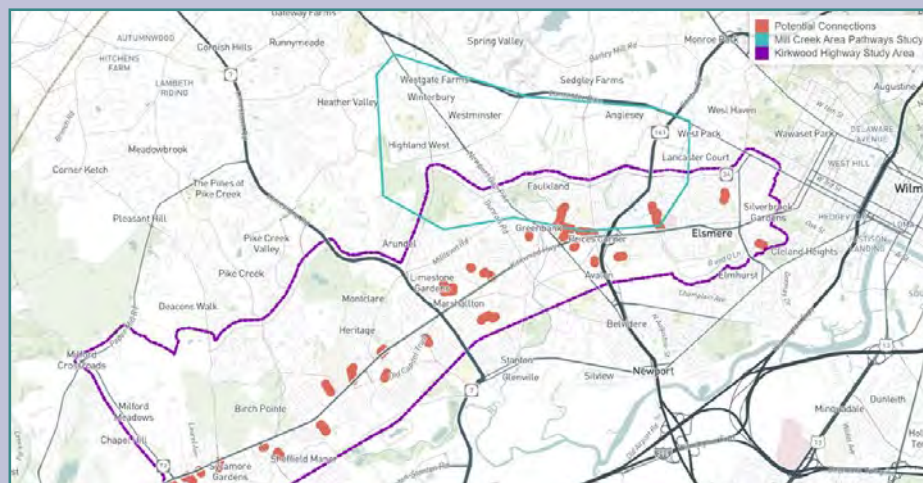
In the SR 2 corridor, bicycle and pedestrian facilities should be provided:



- Along Kirkwood Highway west of Marshallton
- Along parallel streets between Marshallton and Wilmington that have a lower level of traffic stress
- With a focus on closing gaps at both eastern and western ends of Elsmere

The Newport to Newark Pathway System is a separate parallel facility currently under design which will also serve some longer-distance trips.

Neighborhood Access



The review of the Multimodal scenario included identification of several types of connections that will be reflected in all alternatives:

- Key sidewalk gaps along roads intersecting SR 2
- Use of remnant rights-of-way for sidewalks/paths
- Opportunities to strengthen inter-parcel connections
- Recognition of improvements in related studies, notably the Marshallton circulation study and the Millcreek Area Pathways study

Inter-parcel connections such as this access to the Western Family YMCA can be an effective way to shorten walking distances.



Opportunities for connections were identified through walk-accessibility analysis, field review, and public comment.

Note: ADA accessibility must be considered for all pedestrian connections

SCENARIO PLANNING



HOW MANY LANES?



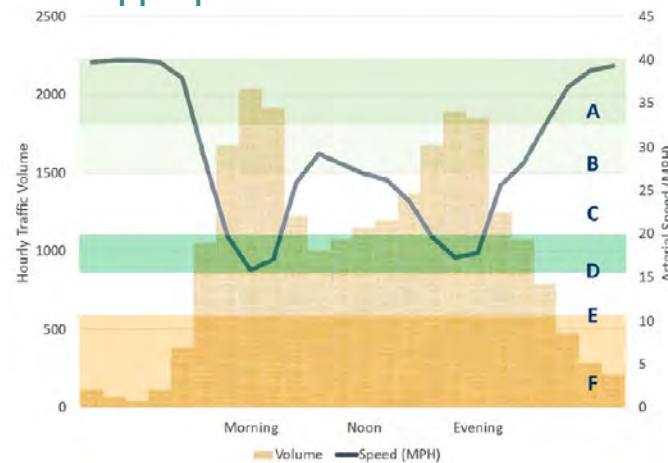
The regional travel demand model indicates that traffic within the Kirkwood Highway study area will experience a **low level of growth** over the next 20 years.

Historically, traffic on SR 2 has not grown much over the past 20 years. In several locations, volumes have dropped. For example, since 2003:

- between Milltown Rd and SR 7, traffic has decreased 16%
- between SR 41 and SR 141, traffic has decreased 18%.

Initial analyses indicate that the existing number of lanes along SR 2 within the corridor remain appropriate for existing traffic volumes and also appear appropriate to accommodate projected traffic volumes; however, additional analyses are ongoing.

Appropriate Number of Lanes:



Too Many Lanes:



Considerations:

- Queues and delay during peak travel periods
- Travel speeds during off-peak travel periods
- Pedestrian crossing widths
- Size of intersections
- Best use of available Right-of-Way:
 - Travel lanes & turn lanes
 - Bicycle lanes
 - Sidewalks
 - Landscaping / green space
 - Transit facilities
 - Service roads
 - Amount of impervious pavement

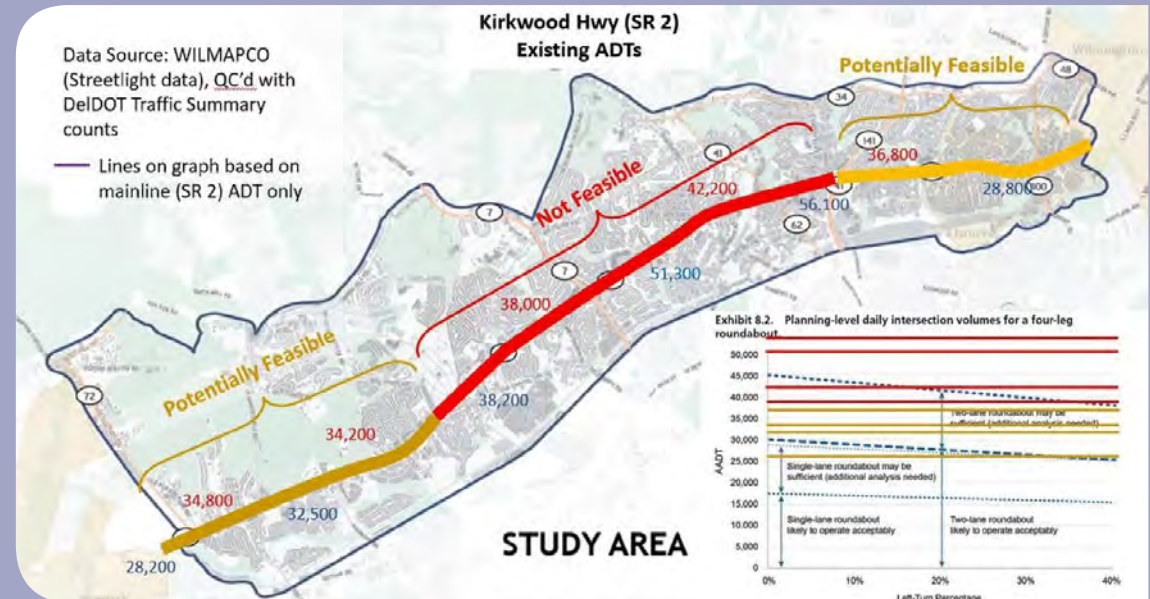
SCENARIO PLANNING



WHAT ABOUT ROUNDABOUTS?

Why consider a roundabout on Kirkwood Highway?

- Safety
- Speed Reduction
- Gateway Treatment / Aesthetics / Placemaking
- Transition from one roadway environment to another



35%

reduction in crashes

90%

reduction in fatalities

76%

reduction in injuries

Roundabouts require driving 25 mph or slower giving drivers more reaction time to other vehicles or pedestrians in crosswalks. Slower speeds reduce severe injury crashes.

There are now more than 10,000 roundabouts in use in the United States.

SCENARIO PLANNING

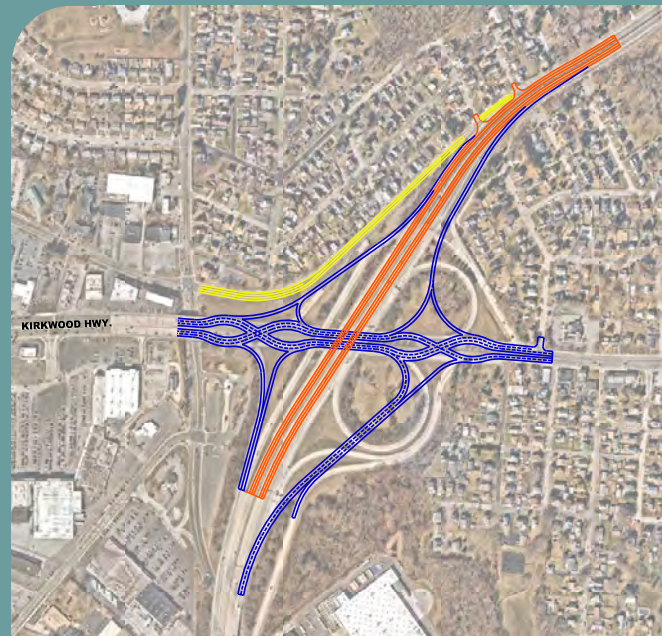


RIGHT-SIZING THE SR 2 AND SR 141 INTERCHANGE

Options to reconfigure the SR 2 and SR 141 interchange when the existing bridges reach the end of their service life:

- Single point urban interchange (SPUI)?
- Tight diamond interchange?
- Diamond interchange with roundabouts?
- Diverging diamond interchange (DDI)?

In addition to right-sizing the intersection, reconfiguration options would help motorists to bypass the at-grade railroad crossing on Centerville Road and Newport Gap Pike.



SCENARIO PLANNING



MAJOR INTERSECTIONS

Potential grade-separated intersection (GSI) improvements:

Previous studies have identified multiple long-term improvement concepts at the SR 2 at SR 7 intersection and at the SR 7 at Milltown Road intersection.

One or more of these concepts could be included in future alternatives.

SR 7 at Milltown Rd

Thru Overpass Concept



SR 2 at SR 7

*Center Turn Overpass
("Elevated Lefts")
Concept*

KIRKWOOD HIGHWAY ALTERNATIVES



ROAD VS STREET

The Corridor Vision Statement includes many objectives for Kirkwood Highway. Achieving those objectives may result in portions of Kirkwood Highway serving as a “Road” and in other sections it may become a “Street”. Roads and Streets serve different purposes and achieve different objectives in different ways:

Road

- An efficient connection between two places
- Higher speeds; focus on vehicular travel
- Limited access (fewer driveways and minor side streets)

Street

- Captures value of surrounding land uses
- Slower automobile travel with a focus on multimodal safety
- Provides facilities for all users

One of these options is not inherently preferable to the other, but both are preferable to the existing condition along much of Kirkwood Highway, the “Stroad”. Stroads are an attempt to simultaneously achieve the benefits of both streets and roads but more often than not, they end up being inefficient and result in safety challenges for all users. The table below describes how key objectives for the future of Kirkwood Highway would be satisfied by converting the existing “stroad” into either a road or a street.

Corridor Vision Element	Road	Street
Serve mobility by automobile	Higher speed limits for improved mobility by car/bus	Lower speed limits for to facilitate multimodal travel
Serve mobility by transit	Enhanced transit speeds due to overall higher roadway speeds	Enhanced transit priority and improved access to transit
Serve mobility by walking/biking/rolling	Fewer opportunities to cross, longer crossing distances, higher vehicle speeds, less comfort for multimodal travelers	More frequent opportunities to cross, shorter crossing distances, more right-of-way dedicated to multimodal connectivity and access
Discourage high speeds	Design elements include highway geometries which facilitate higher speeds	Design elements contribute to discourage speeding
Promote safe access to land uses along Kirkwood Highway	Driveways and medians are closed to reduce conflict points with through-traffic	More frequent intersections and driveways favor access over mobility
Manage congestion levels	Turn lanes added to achieve LOS D at each intersection	Intersections sized to achieve LOS D primarily for the overall arterial rather than at every intersection
Include residential uses in business centers	Greater likelihood new residents travel by car	Greater likelihood new residents travel by walking and biking
Improve landscaping and open space	Naturalistic, untended foliage where gaps in development and facilities exist	Manicured street trees and furniture with programmed public spaces

Red: Negative expected performance outcome
Yellow: Neutral expected performance outcome
Green: Positive expected performance outcome

Road



Source: Google Maps, Richmond Highway, Alexandria VA, circa 2021

Street



Source: National Association of City Transportation Officials

As roads favor faster through-traffic, bus boarding areas often exist in shoulders, parking lanes, or pull-off areas as to not impede the movement of traffic. On streets, multimodal travel is more emphasized, leading to facilities such as “bus bulbs”, where the curb is extended into the adjoining parking or traffic lane to allow for easier and safer boarding and alighting for transit passengers.

Road



Source: Nearmap, Elkton Rd and Casho Mill Rd, Newark DE, circa 2024

Street



Source: Nearmap, E Delaware Ave, Newark DE, circa 2024

On a road, space within the right-of-way beyond the travel lanes is likely to be dedicated to turn bays or service/frontage roads to allow access and turning movements without impacting speeds on travel lanes. On a street, this space is more likely to be dedicated to bus lanes, bike lanes, shared-use paths, or other dedicated multimodal infrastructure.

Road



Source: Google Maps, Lancaster Pike, Hockessin DE, circa 2023

Street

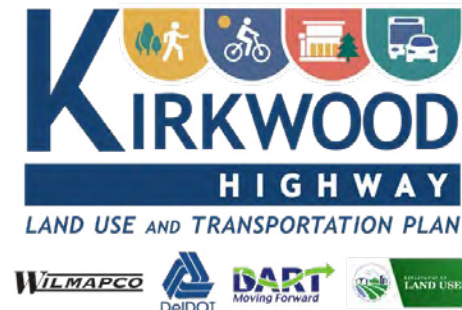


Source: Google Maps, Philadelphia Pike, Claymont DE, circa 2023

Roads tend to provide ample parking capacity as part of the land use, sometimes resulting in no street wall due to larger businesses being set back behind parking lots. Streets tend to support more human-scaled land uses, usually set closer to the edge of the right-of-way.

KIRKWOOD HIGHWAY ALTERNATIVES

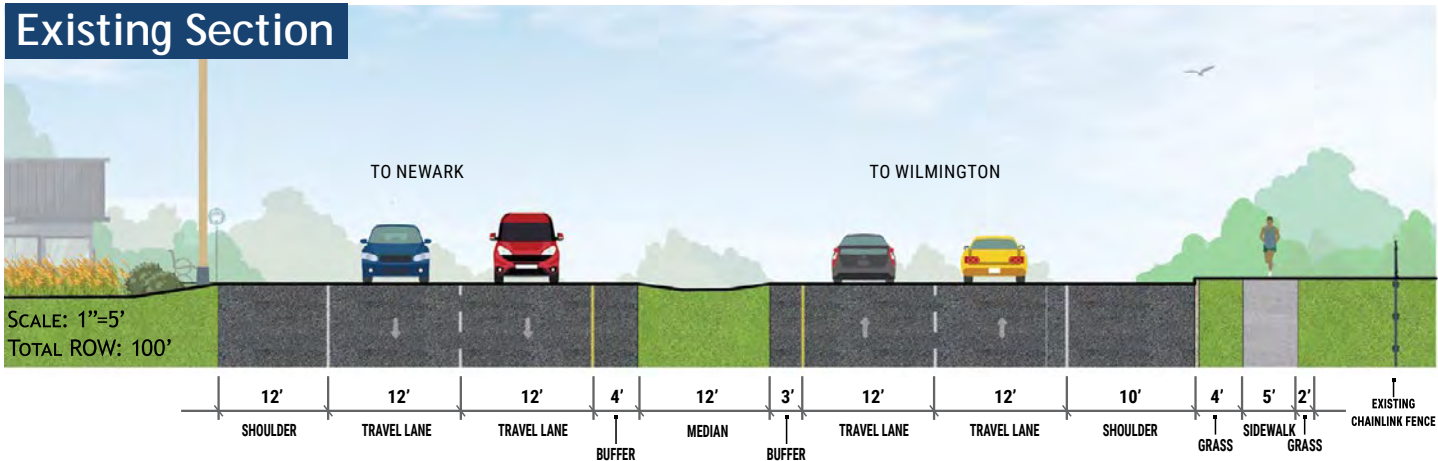
Kirkwood Highway Section 1



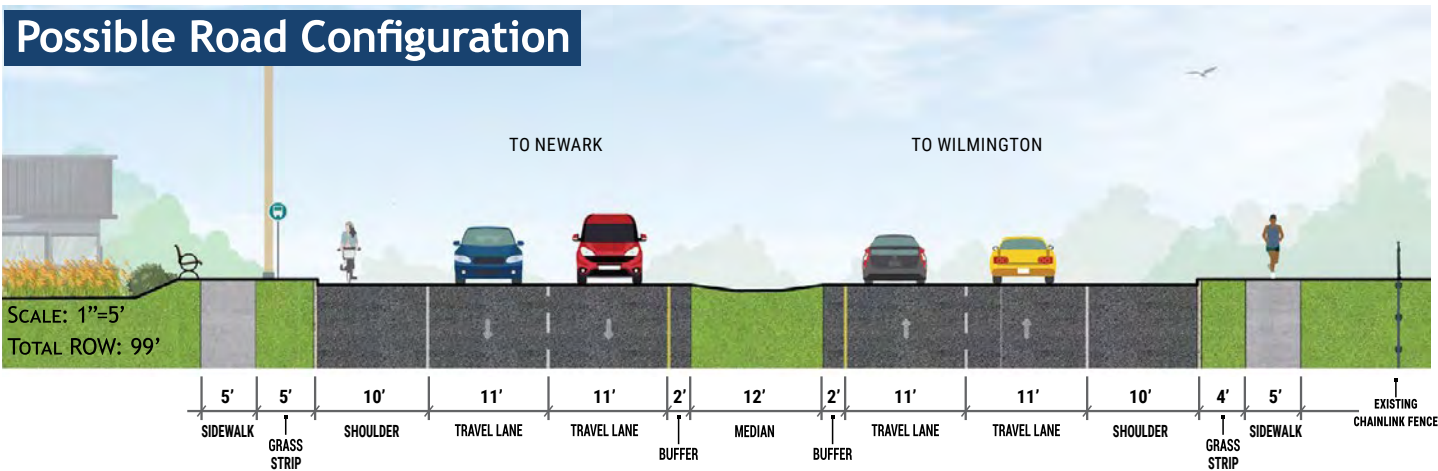
Existing Aerial Imagery



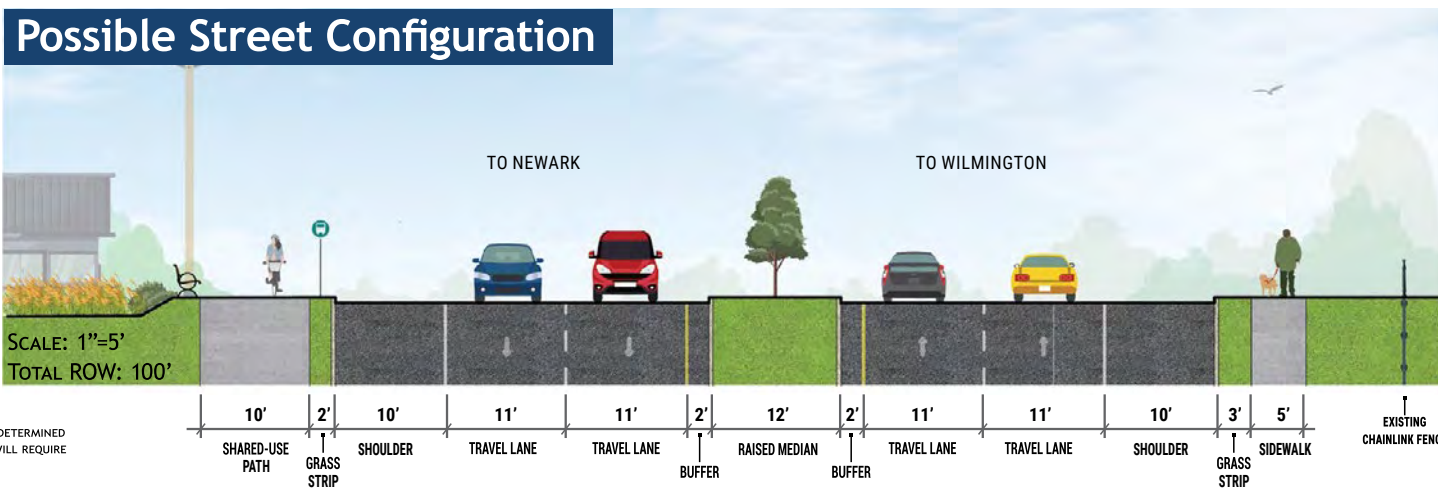
Existing Section



Possible Road Configuration



Possible Street Configuration

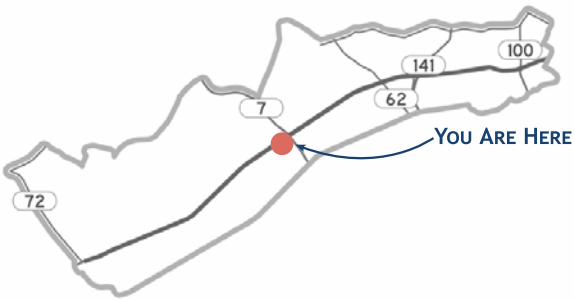
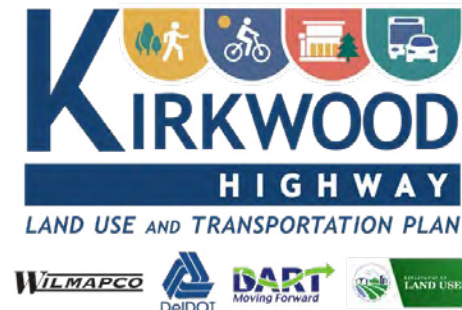


NOTES:

- UTILITIES AND DRAINAGE TO BE DETERMINED
- RELOCATION OF UTILITY POLES WILL REQUIRE EXTRA COST

KIRKWOOD HIGHWAY ALTERNATIVES

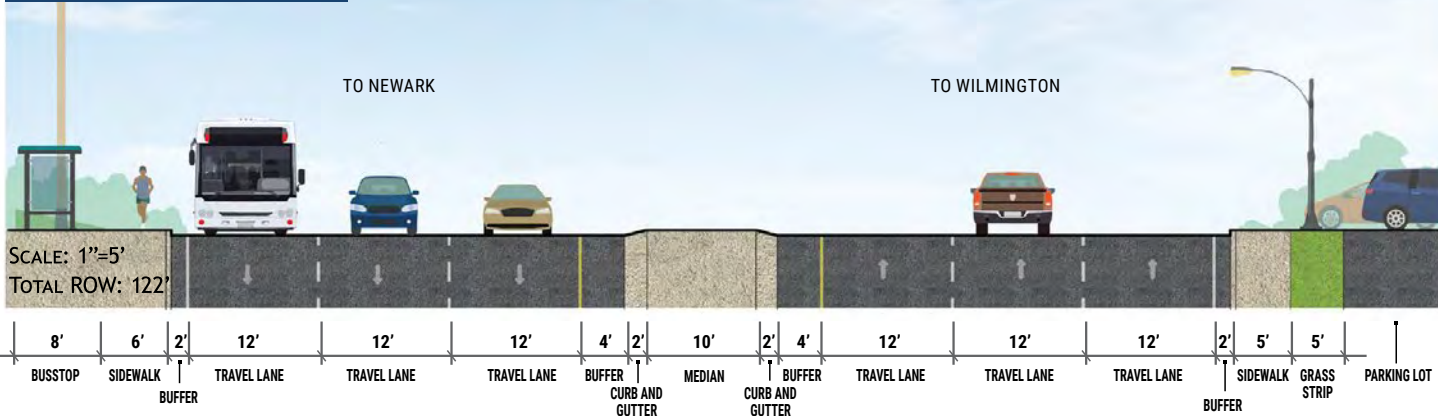
Kirkwood Highway Section 2



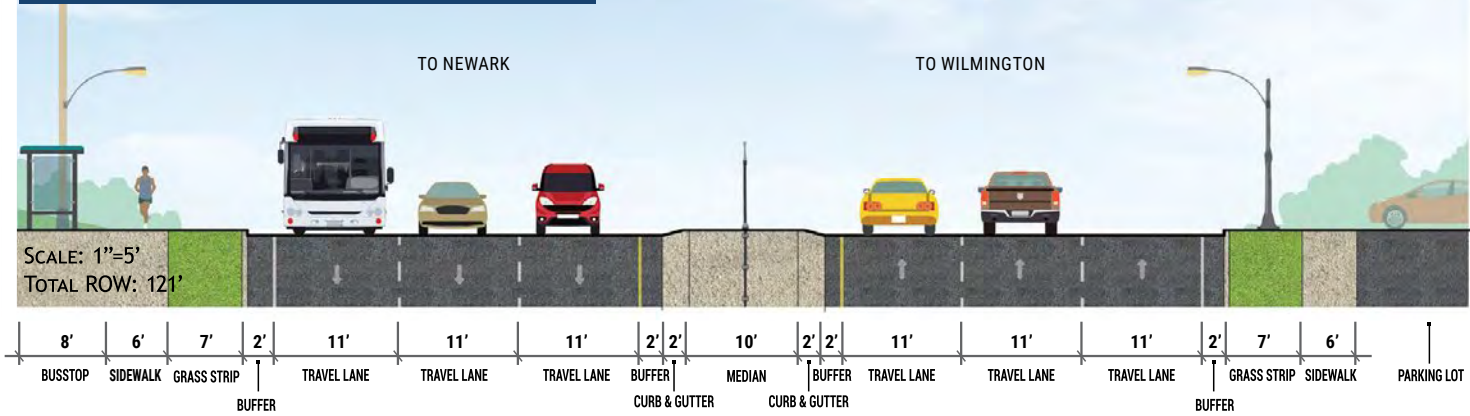
Existing Aerial Imagery



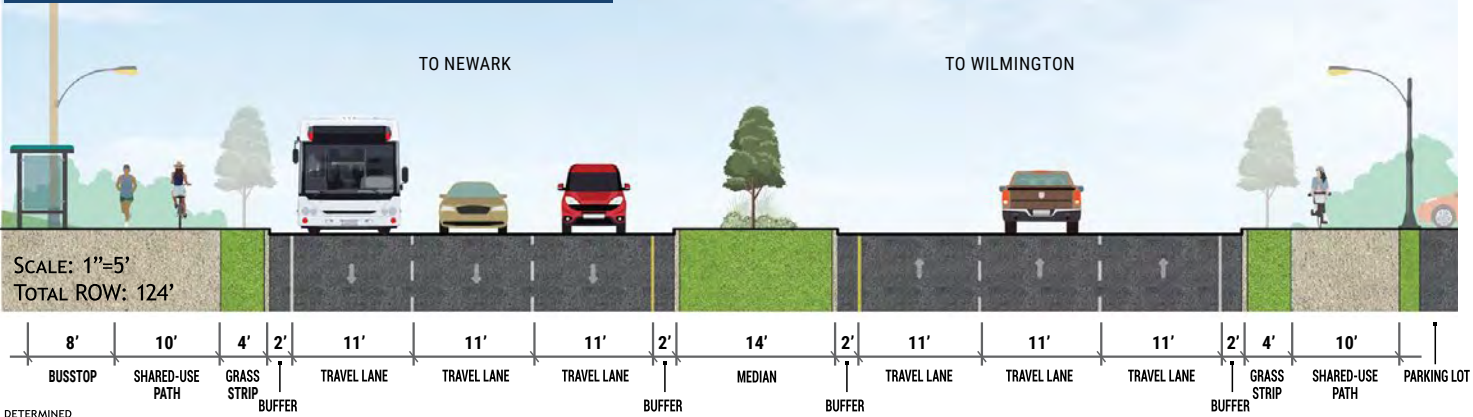
Existing Section



Possible Road Configuration



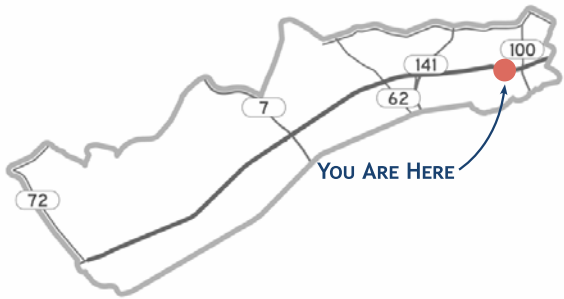
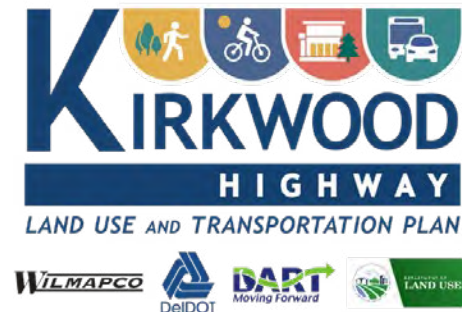
Possible Street Configuration



NOTES:
• UTILITIES AND DRAINAGE TO BE DETERMINED

KIRKWOOD HIGHWAY ALTERNATIVES

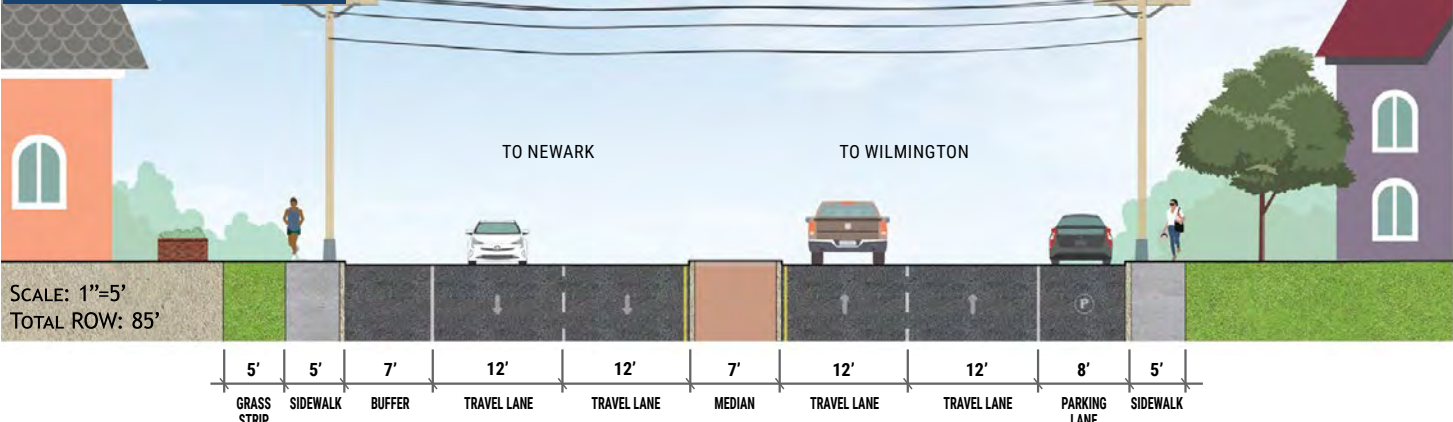
Kirkwood Highway Section 3



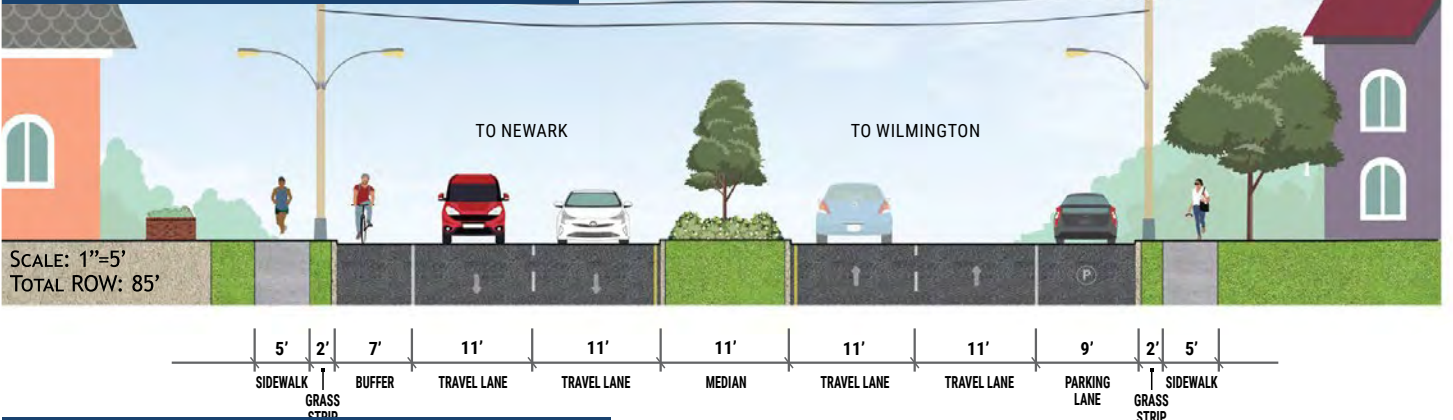
Existing Aerial Imagery



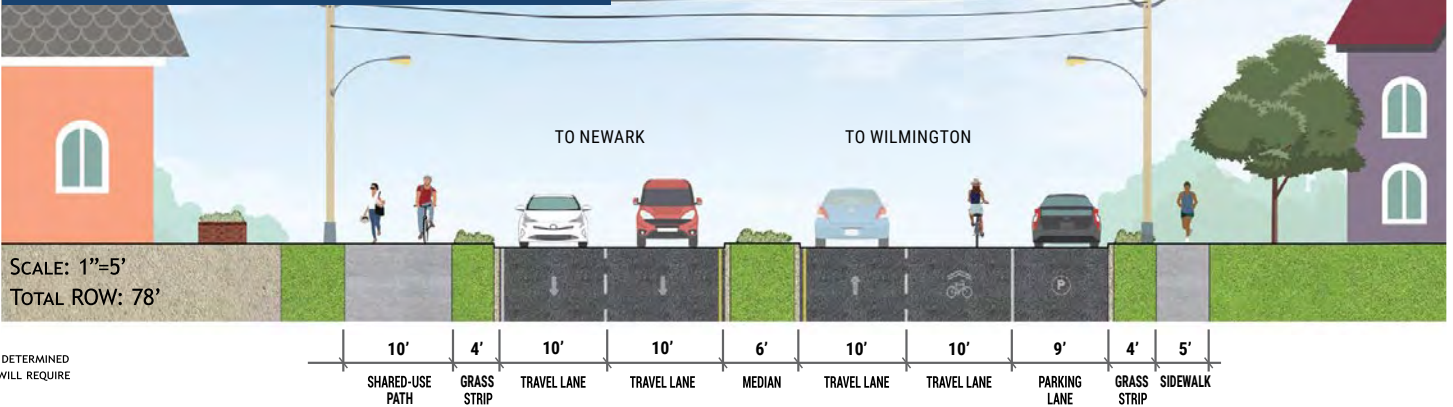
Existing Section



Possible Road Configuration



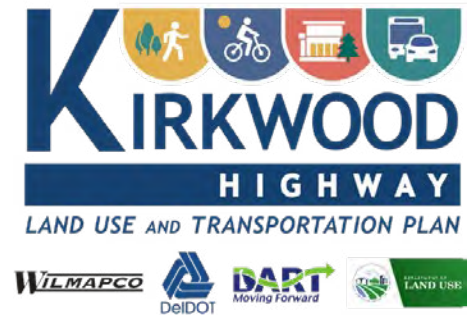
Possible Street Configuration



NOTES:
• UTILITIES AND DRAINAGE TO BE DETERMINED
• RELOCATION OF UTILITY POLES WILL REQUIRE EXTRA COST

ALTERNATIVES DEVELOPMENT

ROAD VS STREET



The next two boards provide an opportunity for you to help the Project Team develop alternatives that convert Kirkwood Highway to either a Street or a Road in each of the five (5) segments shown above



The following elements will be included in both a STREET and ROAD alternative:

- Off-Corridor Pedestrian/Bicycle Connections
- Wilmington/Newark Trail
- Better Bus Shelters with real time information
- Off-Board Transit Fare Collection
- Improved Service Frequency
- Transit Signal Priority

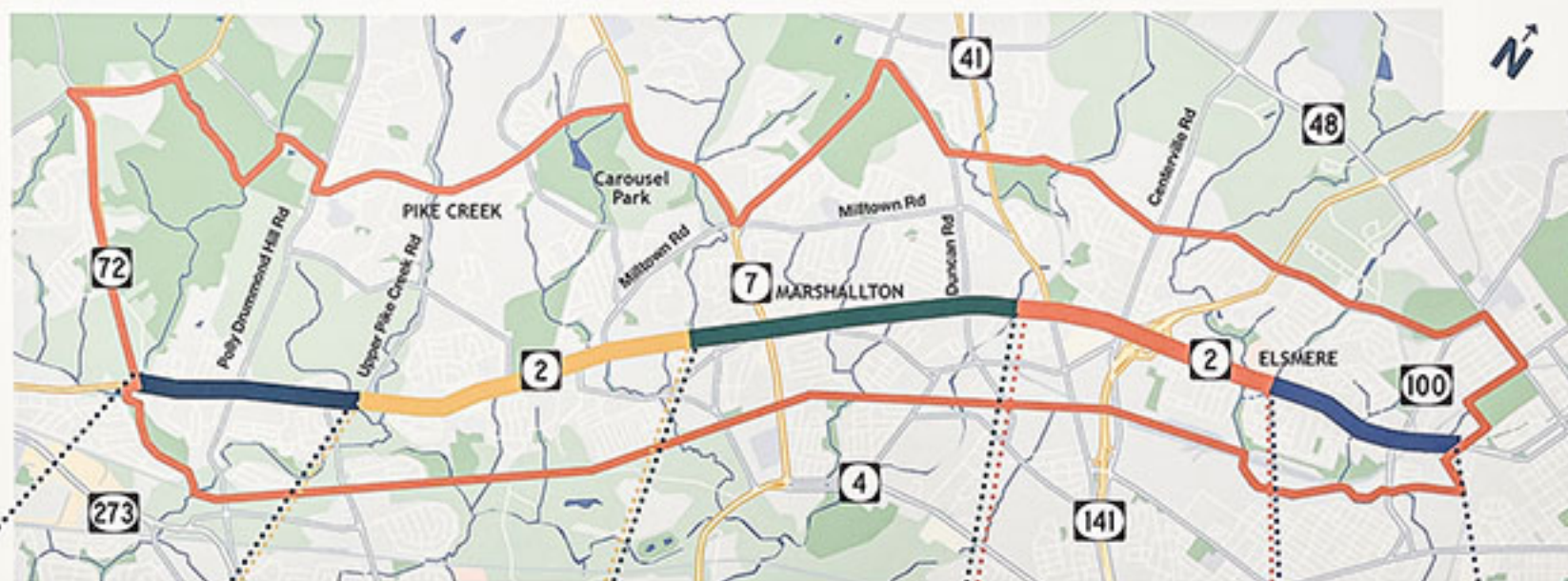
ROAD ALTERNATIVE

INTERACTIVE!

INSTRUCTIONS:

Place a **GREEN** dot in the box for elements you want to see move forward. ••

Place a **RED** dot in the box for elements you do not want to see move forward. •



Elements					
Grade Separation at SR 2 @ SR 7					
Pedestrian overpasses at key locations					
Access management (driveway closures)					
Median closures (with indirect left turns)					
Grade separation at SR 7 @ Milltown					

STREET ALTERNATIVE

INTERACTIVE!

INSTRUCTIONS:

Place a **GREEN** dot in the box for elements you want to see move forward. ••

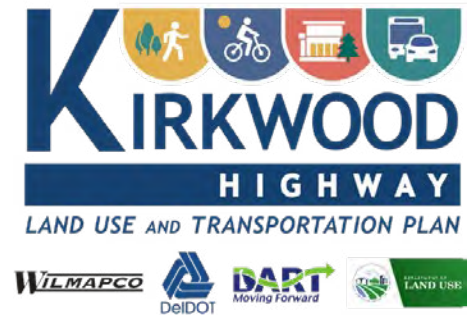
Place a **RED** dot in the box for elements you do not want to see move forward. •



Elements					
Right-size SR 2 @ SR 141 interchange					
Roundabouts on SR 2 at western/eastern ends					
Continuous sidewalks along SR 2					
On-road bicycle lanes along SR 2					
Shared-use path along SR 2 (walking and biking)					
Transit signal priority					

THANK YOU

NEXT STEPS



Stay Involved and Provide Feedback

- Provide a written comment tonight or online on the project website
- Visit the project website at www.wilmapco.org/Kirkwood
- To stay connected sign up for project updates on the project website
- Contact the project manager Dave Gula at dgula@wilmapco.org
- Attend the next workshop in the Fall

