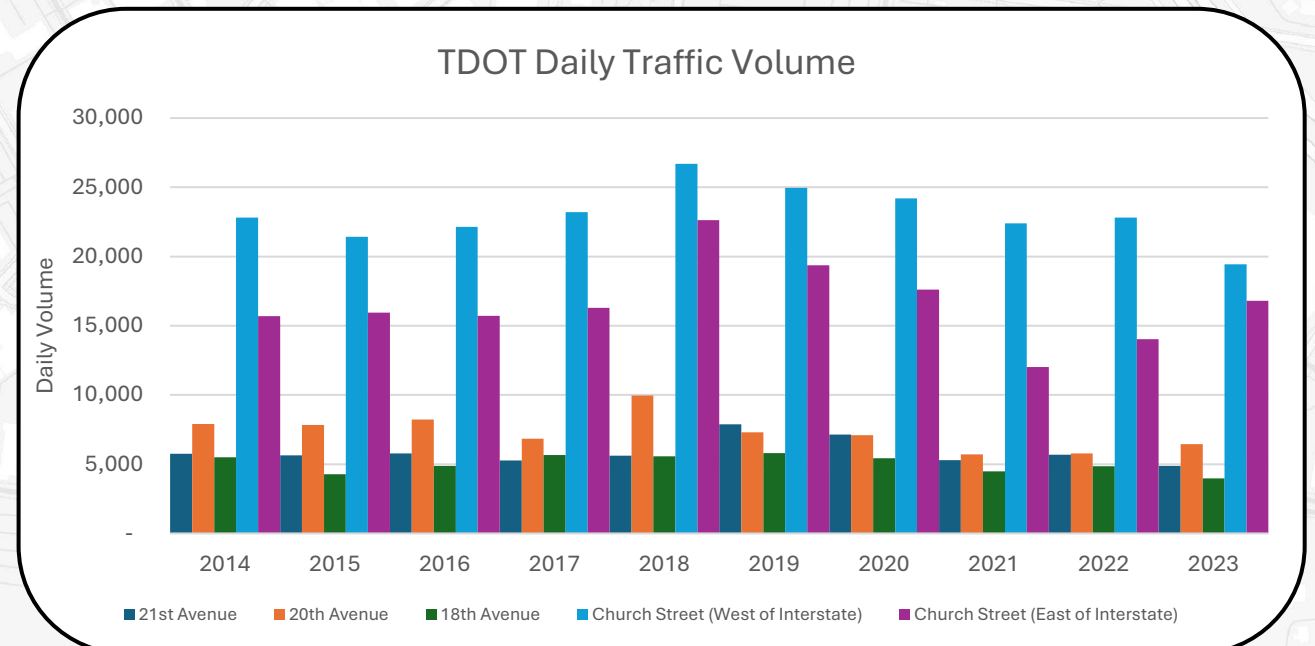


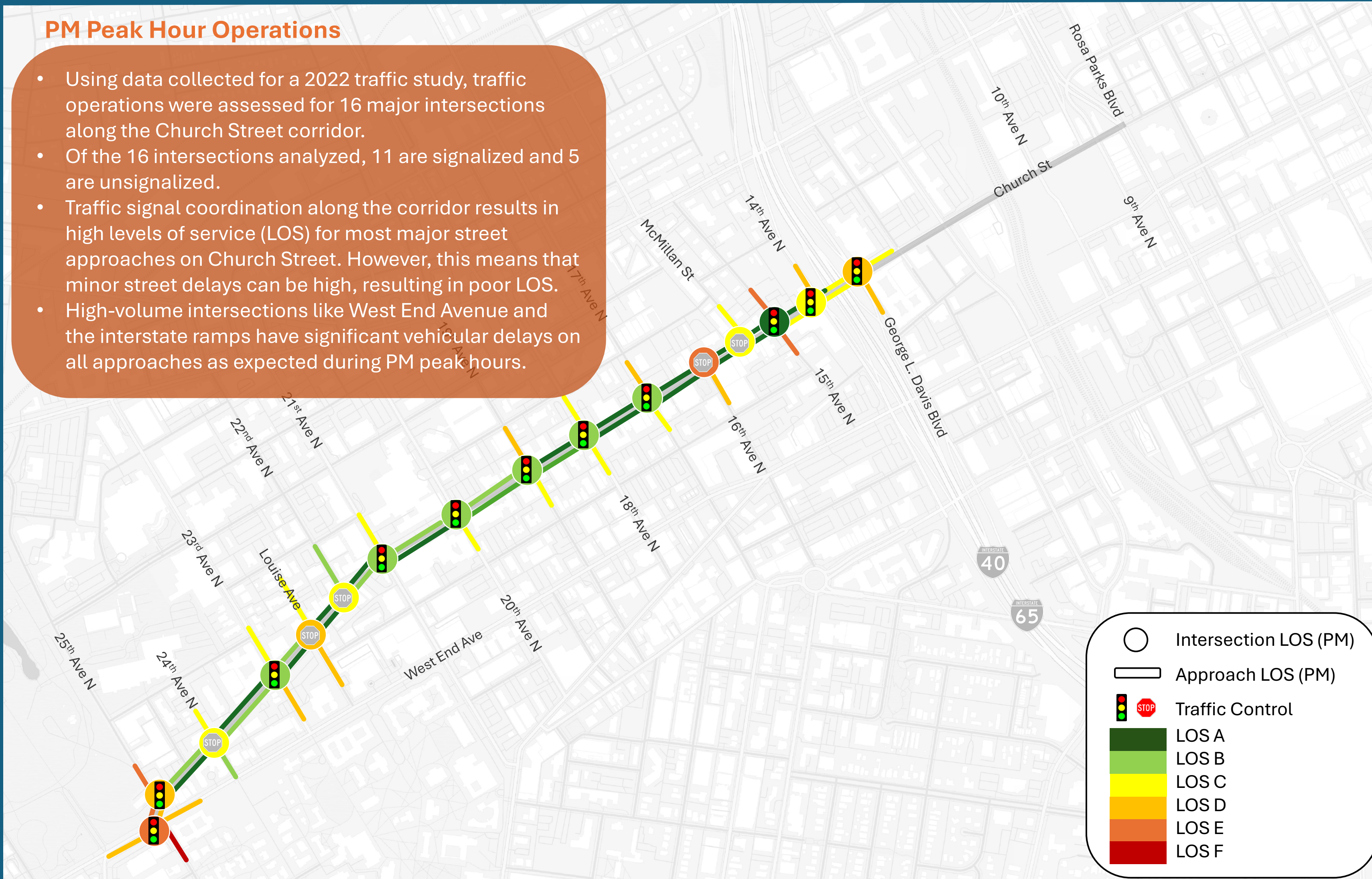
Corridor Characteristics

- Church Street runs through Nashville’s downtown core, across the I-65/I-40 interstate loop, and approximately one mile to West End Avenue.
- In this stretch, the corridor alternates between a 3-lane and 4-lane cross-section with a consistent posted speed of 30 mph and on-street parking in many areas.
- Peak hour traffic volumes are highest near the interstate ramps, through Midtown, and at West End Avenue.
- Daily traffic volumes collected by TDOT on and in the vicinity of Church Street show a static-to-decreasing trend over the past five years. Travel demands are expected to rebound as construction projects are finished.



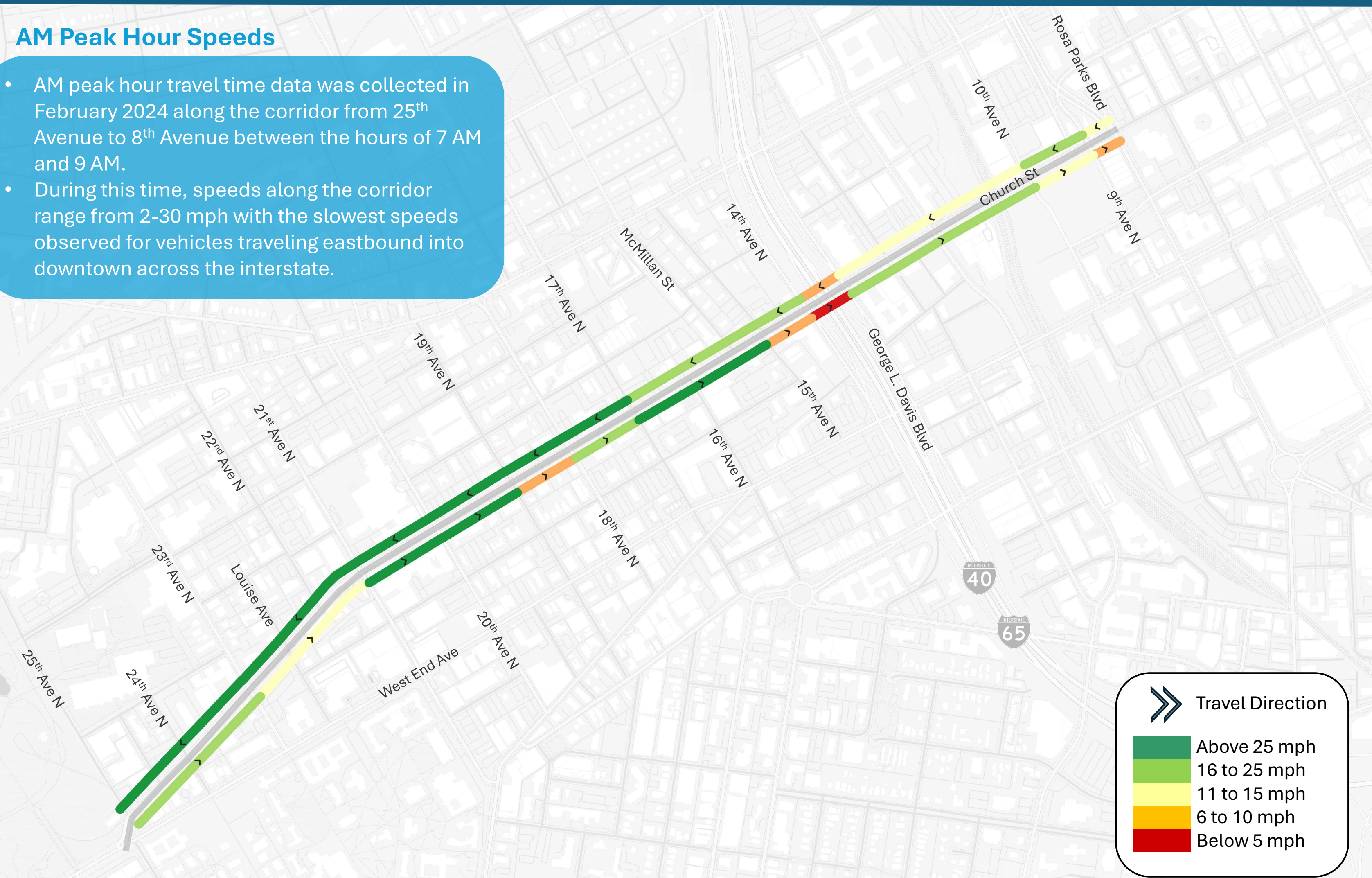
PM Peak Hour Operations

- Using data collected for a 2022 traffic study, traffic operations were assessed for 16 major intersections along the Church Street corridor.
- Of the 16 intersections analyzed, 11 are signalized and 5 are unsignalized.
- Traffic signal coordination along the corridor results in high levels of service (LOS) for most major street approaches on Church Street. However, this means that minor street delays can be high, resulting in poor LOS.
- High-volume intersections like West End Avenue and the interstate ramps have significant vehicular delays on all approaches as expected during PM peak hours.



AM Peak Hour Speeds

- AM peak hour travel time data was collected in February 2024 along the corridor from 25th Avenue to 8th Avenue between the hours of 7 AM and 9 AM.
- During this time, speeds along the corridor range from 2-30 mph with the slowest speeds observed for vehicles traveling eastbound into downtown across the interstate.



PM Peak Hour Speeds

- PM peak hour travel time data was collected in February 2024 along the corridor from 25th Avenue to 8th Avenue between the hours of 4 PM and 6 PM.
- During this time, heavy eastbound traffic volumes between 15th Avenue and the 14th Avenue interstate ramp cause slow vehicular speeds.
- In addition, significant construction activity east of George L. Davis Boulevard into downtown results in significant vehicle queues and slow speeds.



Church Street Complete Streets Study – Multimodal Conditions



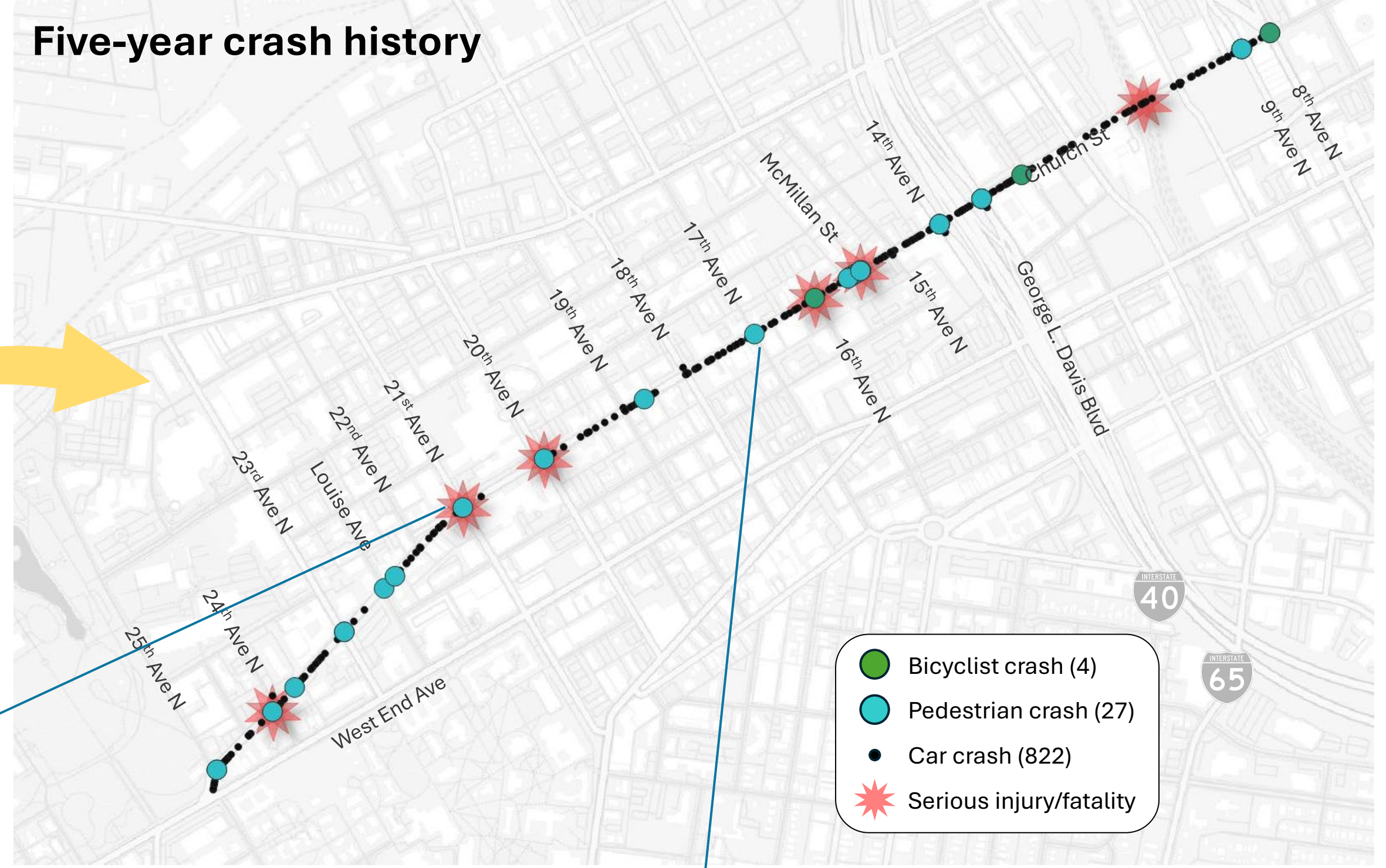
Church Street has a generally complete network of sidewalks on both sides of the corridor. However, a wide cross section with vehicular travel lanes and on-street parking can make it uncomfortable for pedestrians trying to cross.



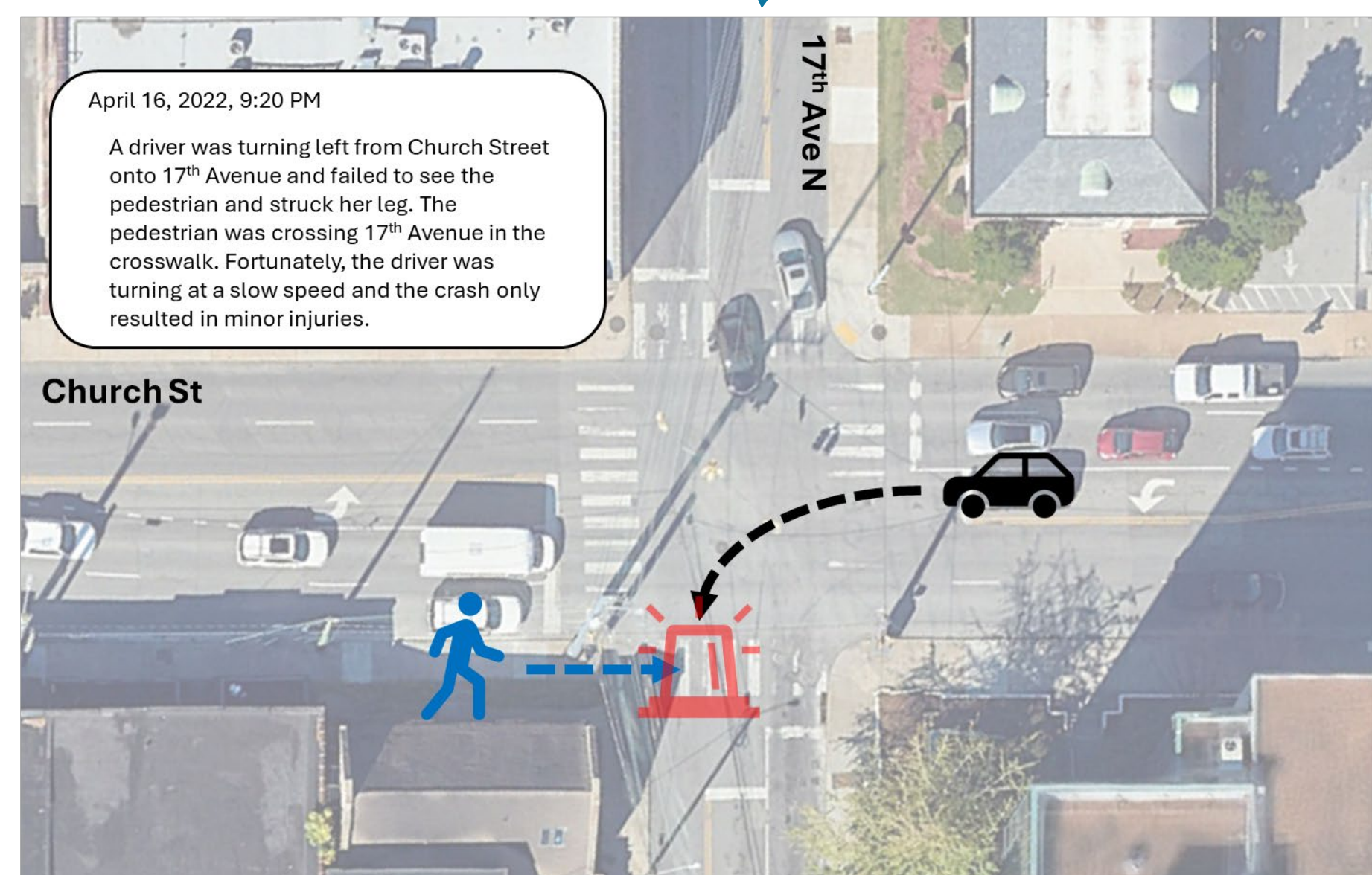
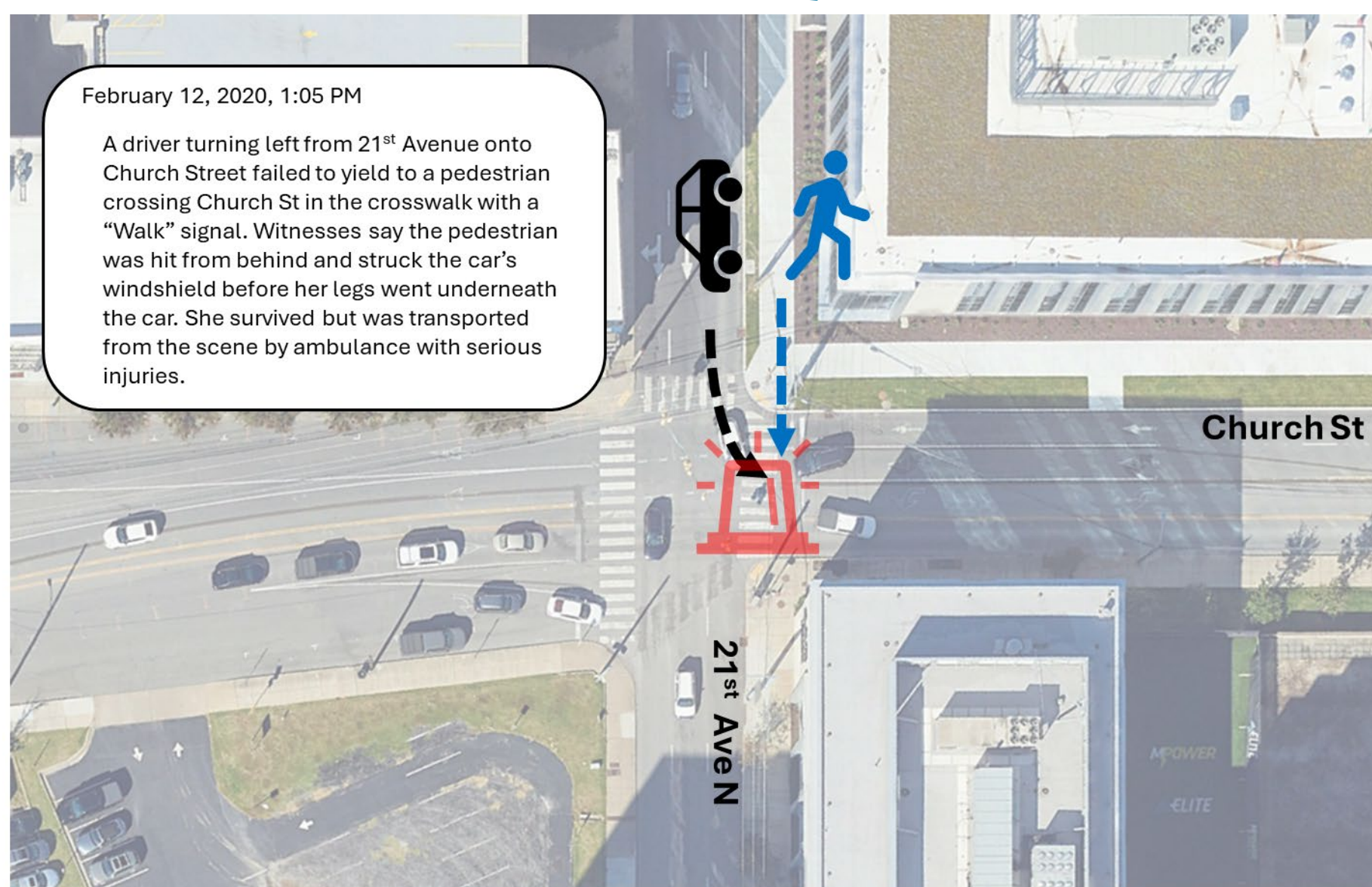
No bikeways exist between the interstate ramps and Centennial Park, making it uncomfortable for cyclists of all abilities to travel the corridor.



Five-year crash history



From 2019 to 2023, 31 pedestrians and bicyclists were struck by people driving on Church Street – about **one every other month**. In 21 of these crashes (68%), a driver hits the pedestrian or bicyclist in a crosswalk at an intersection, usually while turning. Two examples of typical pedestrian crashes that have occurred on Church Street are illustrated and described below.



Elements of a Complete Street on Church

Two alternatives are being proposed along Church Street, and both aim to improve multimodal conditions in the corridor. Alternative #1 provides a bike lane on both sides of Church Street and includes a wide buffer with vertical protection that can provide more opportunities for safety and aesthetic treatments. Alternative #2 provides a two-way cycle track on the north side of Church Street with a raised buffer to enhance protection.

Increasing comfort and safety and reducing traffic stress and crash risk for vulnerable road users means separating people in space and time. Using the intersection of Church Street and 17th Avenue as an example, a sketch up of Alternative #2 shows potential improvements and their benefits.



Crosswalk set-backs can be used to provide queuing space for two-stage turns by cyclists.

A raised buffer provides separation between cyclists and vehicular travel lanes.

Curb extensions or bulb outs can be used to decrease pedestrian crossing distances, calm traffic, and introduce environmental and aesthetic improvements.

Colored pavement markings call attention to drivers making turns across the cycle track.

Cycle track and buffer creates a more comfortable walking experience by providing additional separation between pedestrians and vehicles.

Removing a vehicular travel lane reduces the vulnerability of cyclists and pedestrians crossing Church Street.

Modifications may be needed at traffic signals along the corridor to facilitate safe bike movements through intersections.

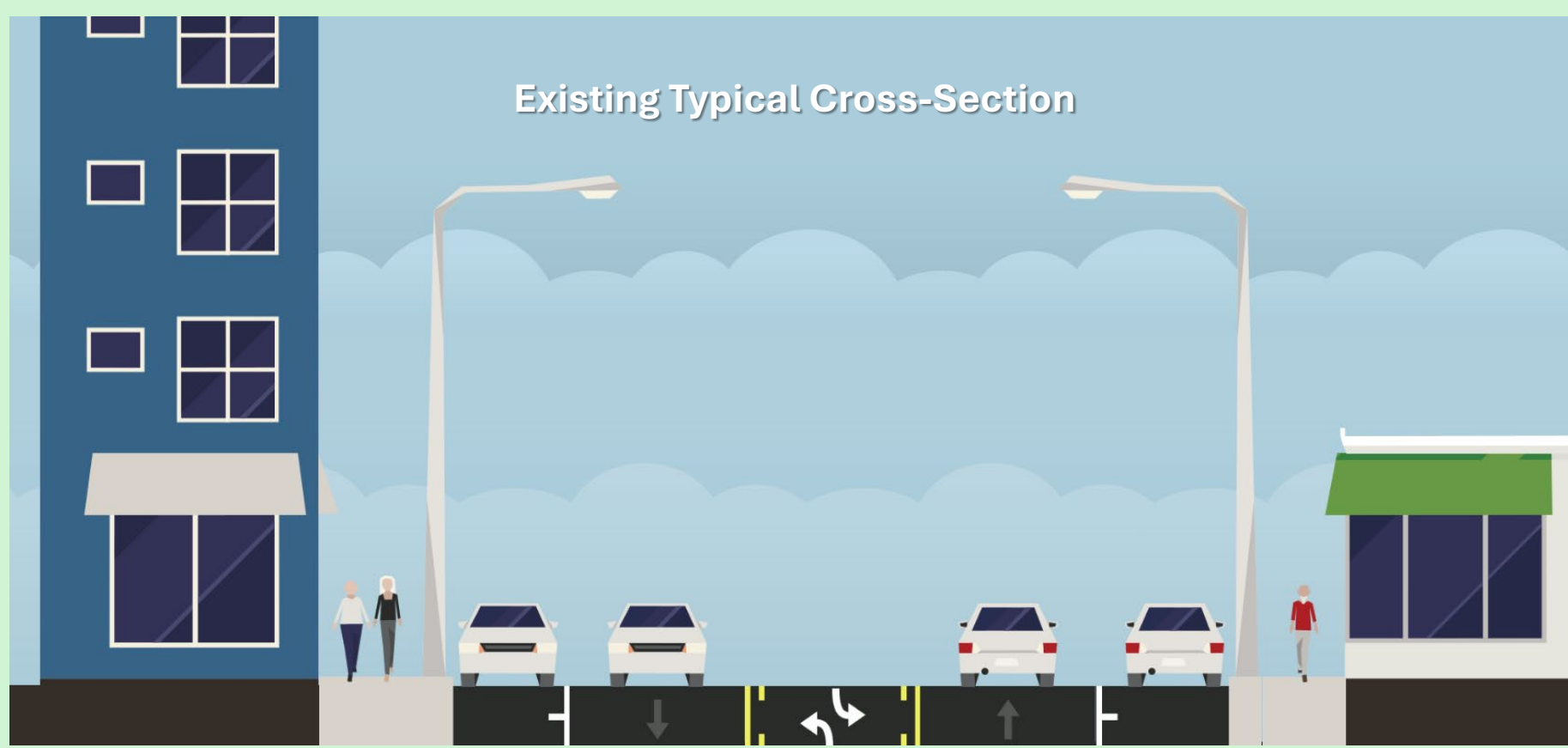
Church Street Complete Streets Study – Existing Cross-Sections



Church Street /Elliston Place West End Avenue to 21st Avenue



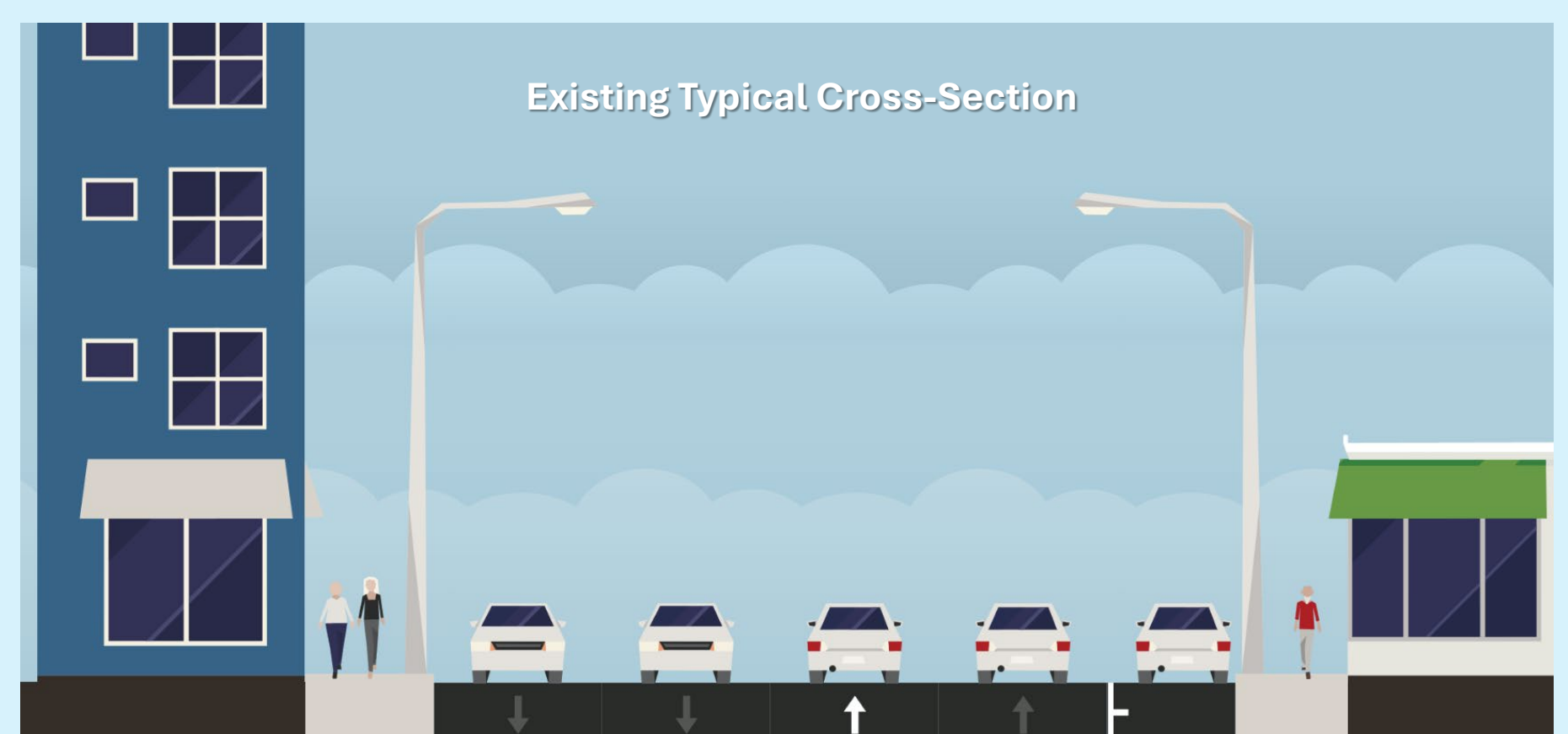
West of 21st Avenue, Church Street/Elliston Place consists of 2 driving lanes, a continuous center turn lane, and on-street parking. Sidewalks are present on both sides oftentimes with landscaping.



Church Street 21st Avenue to 13th Avenue

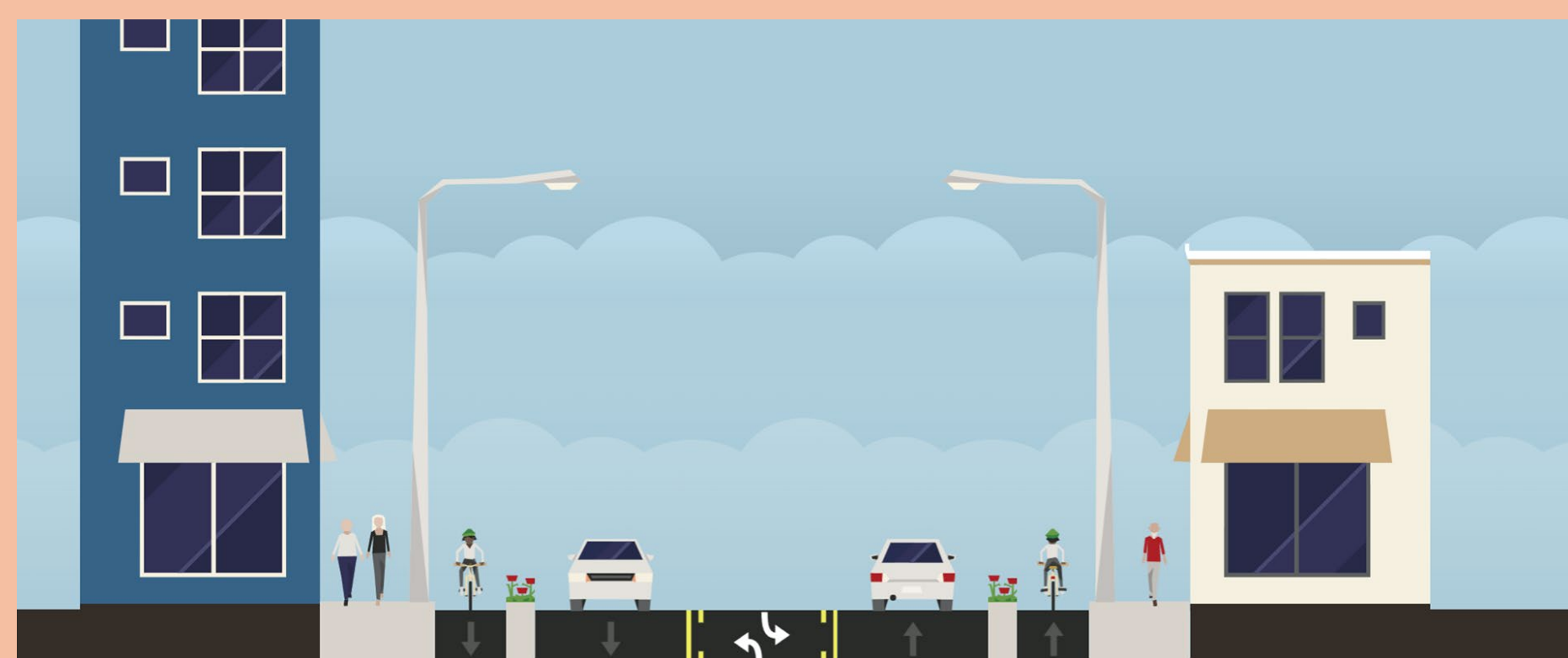


East of 21st Avenue, Church Street generally includes 4 driving lanes and a parking lane. At intersections, a left turn lane replaces the parking lane. Sidewalks of varying widths are present on both sides.

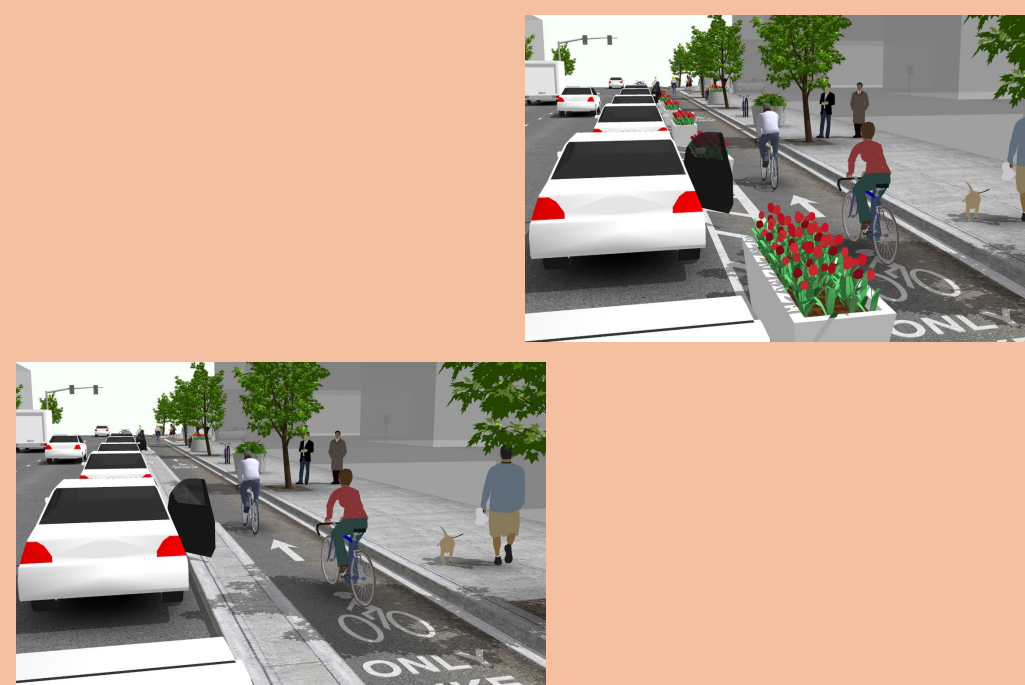


Church Street Complete Streets Study – Proposed Cross-Sections

Alternative #1 – Protected Bike Lanes

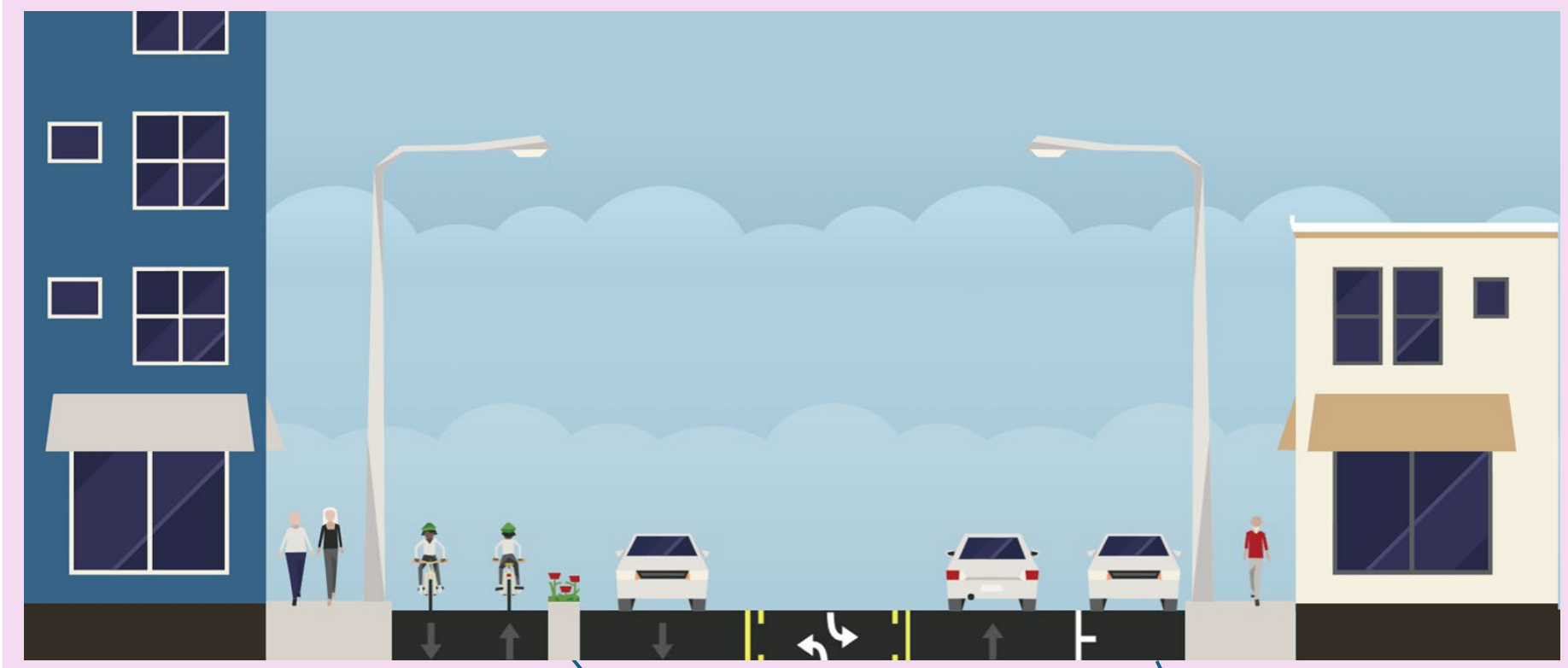


Alternative #1 provides a protected bike lane on both sides of Church Street and includes a wide buffer that can provide more opportunities for safety and aesthetic treatments.



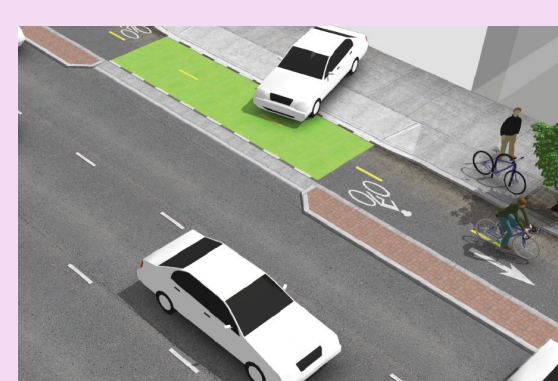
Typical buffered one-way cycle track
12th Ave South, Nashville

Alternative #2 – Two-Way Protected Cycle Track



Alternative #2 provides a two-way cycle track on the north side of Church Street only. A raised buffer provides adequate protection and conserves street width.

Retaining some on-street parking will activate curb space and promote slower speeds.



Typical curb-protected two-way cycle track
Source: City of Kelowna, BC