

21ST AVENUE (DOWNING STREET TO YORK STREET)

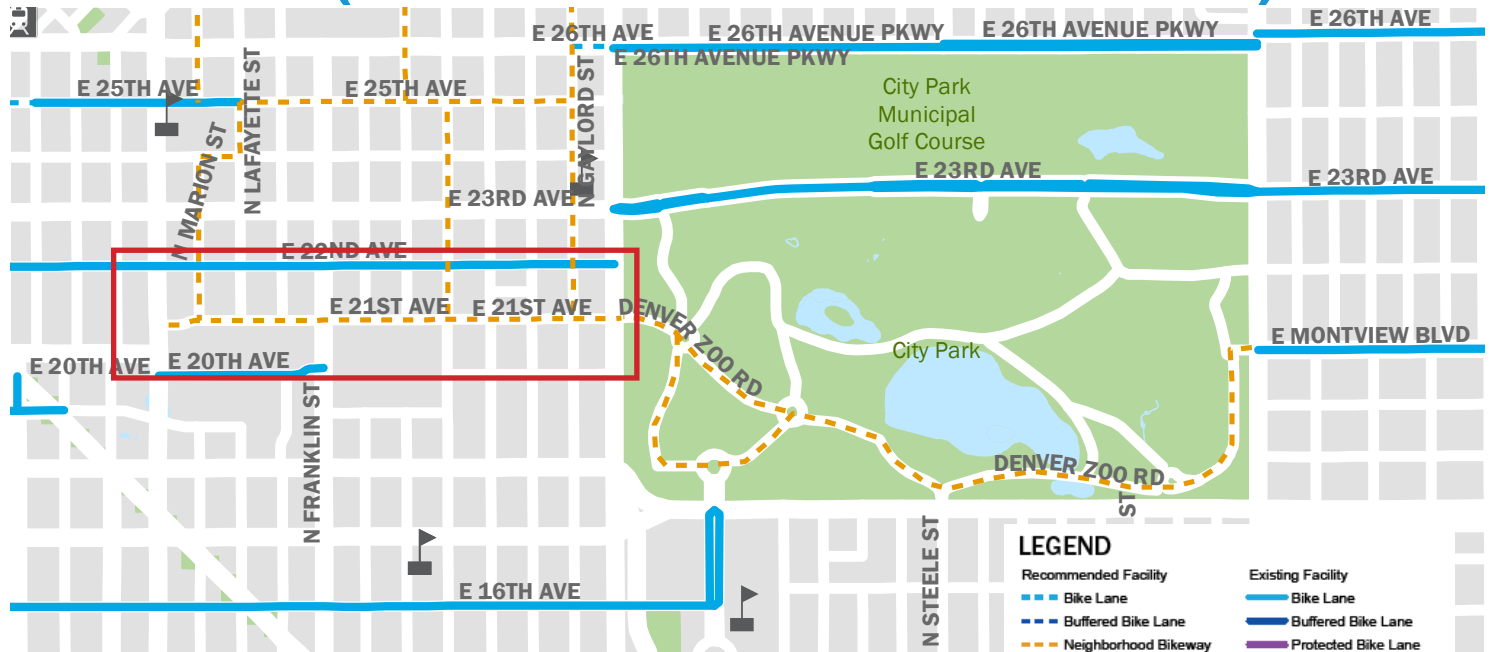


FIGURE 7: 21ST AVENUE CONTEXT MAP

PROJECT OVERVIEW

Denver Moves: Bikes and Blueprint Denver recommended 21st Avenue from Downing Street to Colorado Boulevard to be a neighborhood bikeway. This corridor travels through City Park between York Street and Colorado Boulevard. This project connects to the existing Lafayette Street shared roadway as well as the Marion Street, Williams Street, and Vine Street neighborhood bikeways. The bikeway on 21st Avenue provides key access to City Park and the medical services on 21st Avenue between Downing Street and High Street.

OUTREACH SUMMARY

The outreach approach for the 21st Avenue neighborhood bikeway followed the standard Central CTN process.

DOTI collected community feedback for this corridor through a series of online surveys, interactive input maps and public comments. The online map tool was open from March – May 2020. The draft concept surveys were open from July – August 2020. This feedback helped inform recommendations for improving the way people travel (by bicycle, bus, on foot, and by car) on and around this corridor.

KEY DRAFT DESIGN FEEDBACK:

The draft design for the project was shared with the public for comment in March 2022. The 21st Avenue design received 43 comments from 7 respondents. Major themes from public feedback on the proposed designs included:

- 1 Desire for more permanent infrastructure
- 2 Preference for a protected bike lane instead of a shared lane
- 3 Concerns about conflicts with cars at pinch points and chicanes
- 4 Desire for better protection from cars at intersections

PROJECT DEVELOPMENT

The original bikeway type, a neighborhood bikeway, was maintained through design development. The medical facilities on the south side of 21st Avenue between Downing Street and High Street were a significant consideration in the design of bikeways along this corridor. The design intended to make the corridor comfortable for bicyclists by reducing vehicular speeds and through-traffic volumes while still allowing vehicular access to the hospital. The 85th percentile speeds collected at two points within the project area were 29.1 MPH and 28.1 MPH, which was higher than acceptable for a neighborhood bikeway, therefore considerable speed control measures were proposed. Between initial concept development and final design, the speed control measures considered included chicanes, all-way stops, speed cushions, roundabouts, and other measures.

ANALYSIS COMPLETED:

- ✓ Crash Analysis
- ✓ Parking Analysis
- ✓ Traffic Counts
- ✓ Cross-Section Options
- ✗ Lane Reduction Analysis
- ✗ Intersection Analysis
- ✓ Speed Reduction Analysis
- ✓ Diversion Analysis

DELIVERABLES COMPLETED:

- ✓ Existing Conditions Analysis
- ✓ Alternatives Analysis
- ✓ Concept Design
- ✓ Opinion of Probable Cost

OUTREACH COMPLETED:

- ✓ Network Verification Survey
- ✓ Concept Survey
- ✓ Draft Design Survey
- ✓ Office Hours
- ✓ 5 Network-Wide Public Meetings (2020 to 2022)
- ✓ 6 Network-Wide Stakeholder Meetings (2020 to 2022)
- ✓ One-on-One Stakeholder Engagement
- ✗ Project-Specific Community Meetings

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SUMMARY OF FINAL DESIGN

The final design included a mixture of elements to slow driver speeds, improve safety and comfort for pedestrians and people on bikes traveling along the corridor, and facilitate safer crossings. Specific elements include:

- A traffic diverter for the eastbound direction at High Street to reduce traffic volumes.
- Traffic circles at Race Street and Gaylord Street.
- Pinch points at each block between Lafayette Street and Gilpin Street.
- Bulbouts at eight stop-controlled intersections between Marion Street and Vine Street.
- A protected bike lane on both sides of Downing Street between 20th Avenue and 21st Avenue.
- Green conflict markings for the bike lane crossing at each intersection.
- Regular wayfinding signage to make drivers aware of the bikeway and help bicyclists find their way to nearby neighborhoods and destinations.

While the initial extents of this project included a facility in City Park between York Street and Colorado Boulevard, the final construction did not include improvements west of York Street. At the time of final design development, a receiving contraflow bike lane had already been painted at the City Park exit across from 21st Avenue, and the proposed facilities connect to the park road with green conflict markings. Denver Parks & Recreation will lead their own process to determine the bikeway alignment and configuration within City Park.

PROJECT BENEFITS

CONNECTS DESTINATIONS

Presbyterian/St. Luke's Medical Center, City Park, Denver Museum of Nature and Science

LINKS BIKEWAYS/TRAILS

Connects to 12 existing bike trails along the 21st Avenue corridor

FILLS GAP IN NETWORK

Creates continuous bikeway across City Park

CONNECTS PROPOSED BIKEWAYS

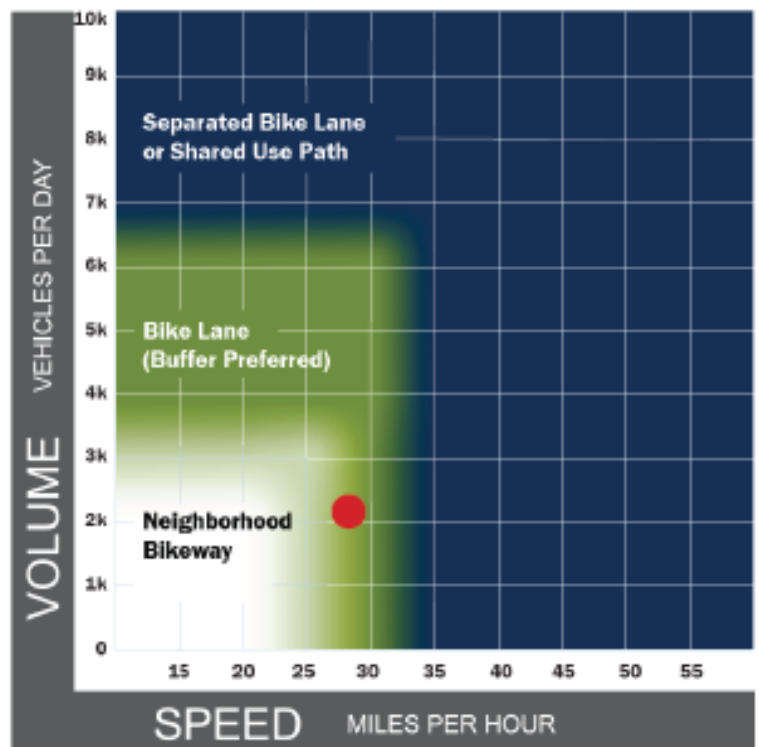
N Marion Street, N High Street, N Gaylord Street

QUALITY CONNECTION

Bikes safely travel with traffic along routes in a familiar commuting and recreational environment

BIKEWAY FACILITY SELECTION CHART

The Bikeway Facility Selection Chart is a tool DOTI uses to identify the appropriate bikeway facility on a given street. As traffic speeds and volumes increase, more separation from motor vehicles is necessary to maintain a safe and comfortable bicycling experience. Based on traffic data collected for 21st Avenue, a neighborhood bikeway is recommended. (see red dot)



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TABLE 4: PUBLIC FEEDBACK SUMMARY

What We Heard	Incorporated into Project
Walking barrier at 21st Avenue and York Street	Signal upgrade, wayfinding at entrance to City Park, improve visibility near intersection
Hard to cross on a bike at 21st Avenue and York Street	Signal upgrade, bike box ahead of stop bar

Legend

Traffic Calming Elements

Treatment type

- Traffic Circle
- Diverter
- Pedestrian Refuge
- Speed Cushion
- Chicane
- Pinchpoint
- Curb Extension Only
- RRFB
- Bike Box

Existing Denver Bicycle Facilities

- Protected Bike Lane
- Neighborhood Bikeway
- Bike Lane
- Buffered Bike Lane
- Shared Roadway
- Trail
- Shared Use Path

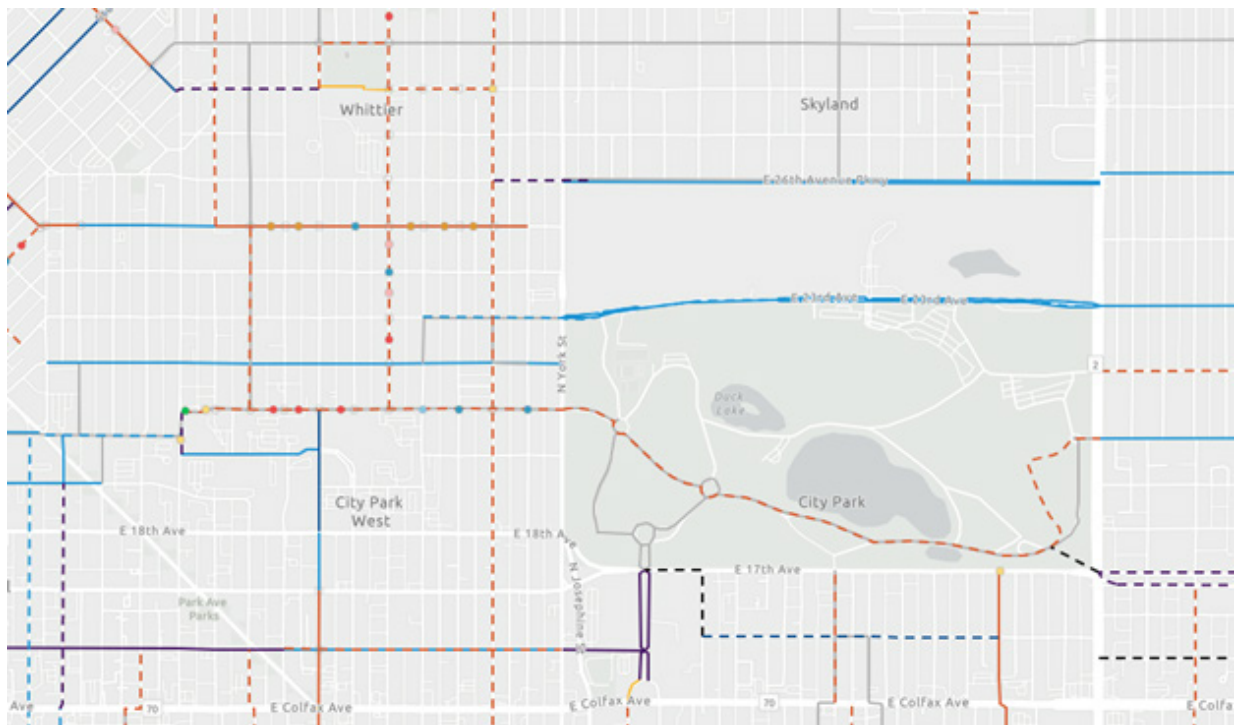


FIGURE 8: 21ST AVENUE TRAFFIC CALMING MAP