

East Colfax Walk Audit Report



July 31, 2016



OVERVIEW

In the fall of 2015, WalkDenver, the Colfax Business Improvement District, and Ken Schroepel's Planning Methods class at the University of Colorado, Denver, College of Architecture and Planning partnered to audit the pedestrian environment along the East Colfax corridor. Urban planning students used the WALKscope mobile tool (www.walkscope.org) to collect data about sidewalks and intersections in the area bounded by Colorado Blvd to the east, Broadway to the west, 17th Ave to the north, and 13th Ave to the south. This report focuses on the portion of the East Colfax corridor bounded by Grant St to the west, Josephine St to the east, 16th Ave to the north, and 14th Ave to the south. A total of 387 data points were collected within this area, including 316 sidewalks and 71 intersections. This report also summarizes pedestrian and bicycle count data from CDOT, bus ridership data from the Regional Transportation District, vehicular traffic volume from the Denver Regional Council of Governments, and crash data from the City and County of Denver. Major findings of this assessment include the following:

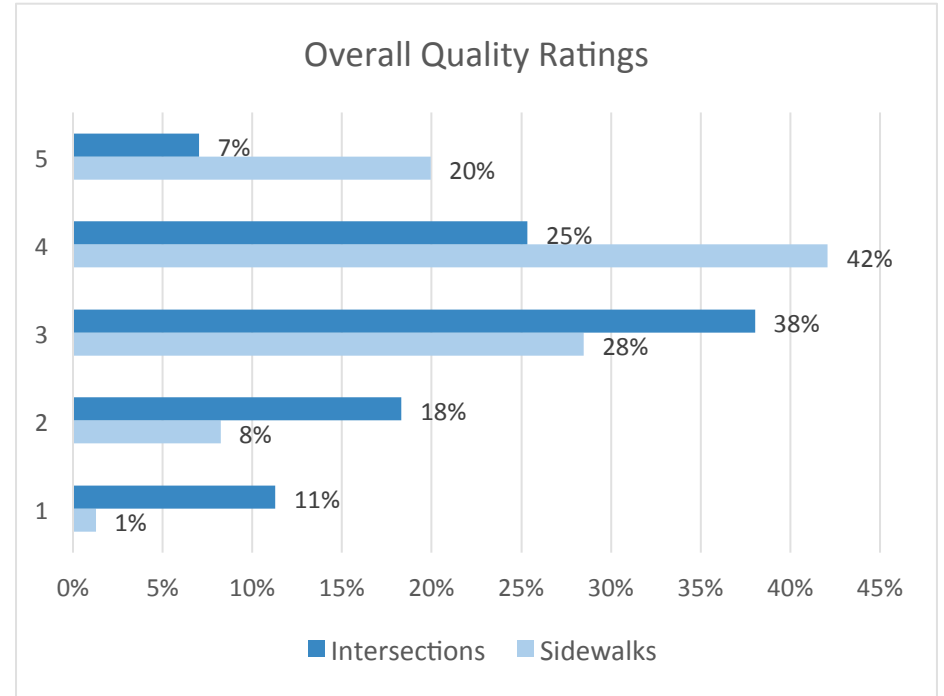
- Most sidewalks (62%) in the study area were given high overall quality ratings of 4 or 5, but intersections fared much worse, with only 32% receiving high overall quality ratings. The lowest overall quality ratings (for both sidewalks and intersections) were most concentrated along Colfax Ave.
- Unsafe traffic speeds are a major problem along 14th Ave and especially Colfax Ave.
- Crossing distance is also a problem on Colfax. Pedestrians must cross five or more lanes to get across Colfax at almost every intersection.
- While most of the study area benefits from good tree coverage, trees and quality landscaping are notably lacking along most of Colfax Ave.
- Most sidewalks along Colfax are all "attached," meaning they are directly adjacent to the street with no buffer.
- Crosswalks are missing at many intersections along busy Colfax Ave and 14th Ave. In some cases, there are three to four block gaps between marked crosswalks.
- Average daily pedestrian counts are relatively consistent across the length of the corridor (roughly around 2,500 at most count locations) with significant spikes on the west end of the corridor and near the intersection of Colfax, Park, and Franklin (where average daily ped counts are approximately 4,000)
- Roughly one third of the total volume of people moving along the East Colfax corridor are walking, biking, or riding the bus, and this proportion is expected to increase with the planned implementation of bus rapid transit (BRT).
- There were 105 crashes involving pedestrians within the study area from 2012 to 2015. The vast majority (89) were located along Colfax Ave. Most (73) resulted in injuries, and one resulted in a fatality.
- Intersections with the highest number of crashes involving pedestrians include Colfax/Park/Franklin (10 crashes), Colfax/Pennsylvania (9), Colfax/Washington (7), Colfax/Logan (6), Colfax/High (6), Colfax/Downing (5), Colfax Clarkson (5), Colfax/Ogden (5), and Colfax/Pearl (5).

Based on these findings, WalkDenver offers the following recommendations for improving pedestrian access to destinations along the East Colfax corridor:

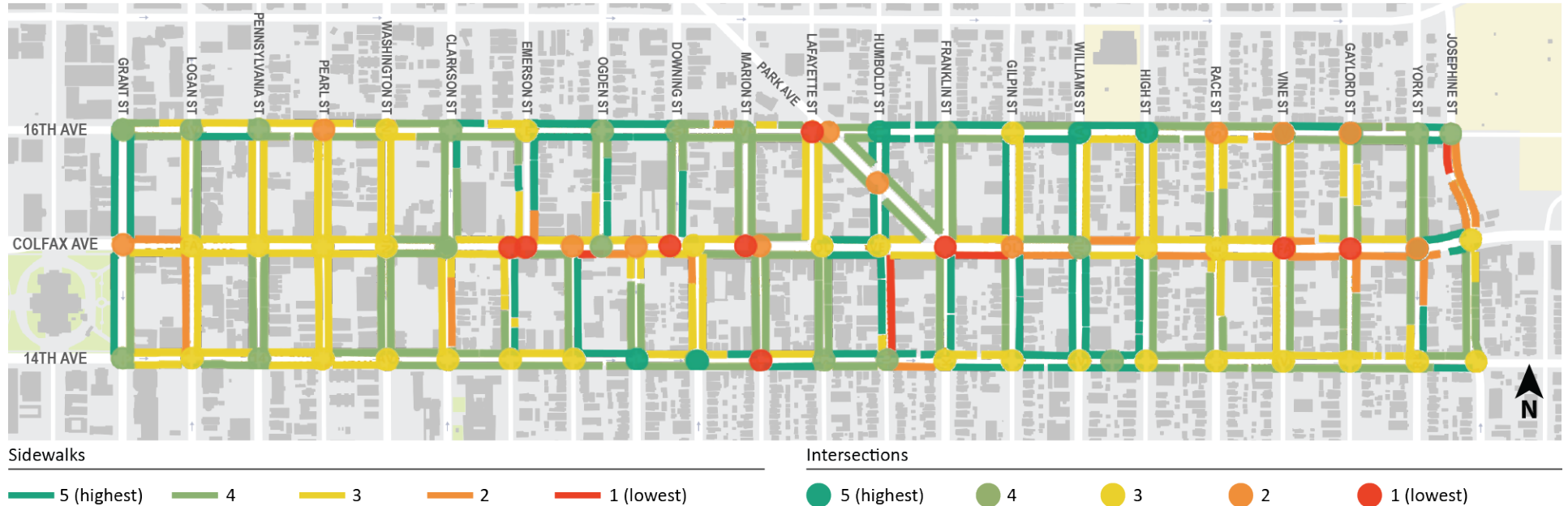
1. Provide additional trees and quality landscaping along Colfax.
2. Enhance pedestrian crossing treatments at all signalized intersections along Colfax.
3. Add additional signalized pedestrian crossings along Colfax at Emerson and Vine/Gaylord.
4. Redesign the intersection of Colfax Avenue, Franklin Street and Park Avenue.
5. Reduce the number and width of lanes along Colfax wherever possible.
6. Use low-cost, interim design strategies.

OVERALL QUALITY OF THE PEDESTRIAN ENVIRONMENT

Data collectors rated each sidewalk and intersection on a scale of 1 (lowest quality) to 5 (highest quality). The average rating for sidewalks was 3.7, and the average rating for intersections was 3.0. Out of 316 total one-block sidewalk segments, 38% received a rating of 3 or less, and out of 71 total intersections, 68% received a rating of 3 or less. About 9% of sidewalks and 30% of intersections received a rating of 2 or less, while 20% of sidewalk segments and 7% intersections received a rating of 5. Lowest quality ratings were generally concentrated along Colfax Avenue.



Overall Quality Ratings



SIDEWALK QUALITY

Four main factors related to the overall quality of sidewalks: sidewalk type, accessibility, safety, and pedestrian amenities.

Sidewalk Type

Detached sidewalks, with a buffer between the sidewalk and street (78% of the sidewalks surveyed), received the highest quality ratings regardless of sidewalk width. Attached sidewalks directly adjacent to the street (22% of sidewalks surveyed) received lower quality ratings. The majority of the study area is served by detached sidewalks, with Colfax Avenue and Josephine St being served primarily by attached sidewalks.



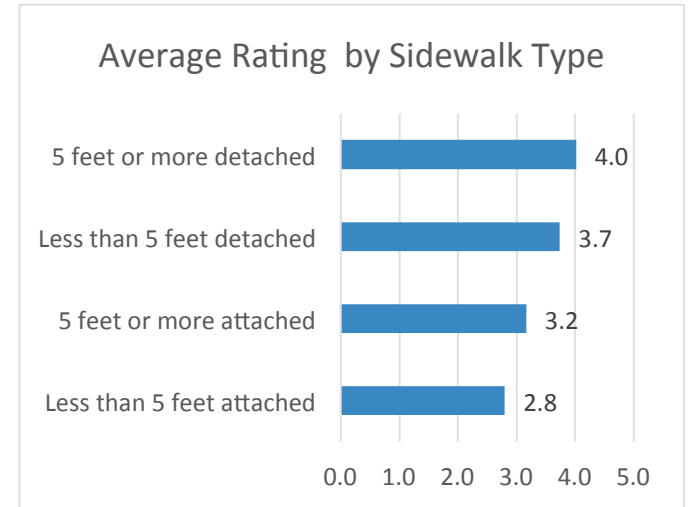
Colfax Ave between Ogden and Corona; 5 ft or more attached; overall quality rating 1 (low)



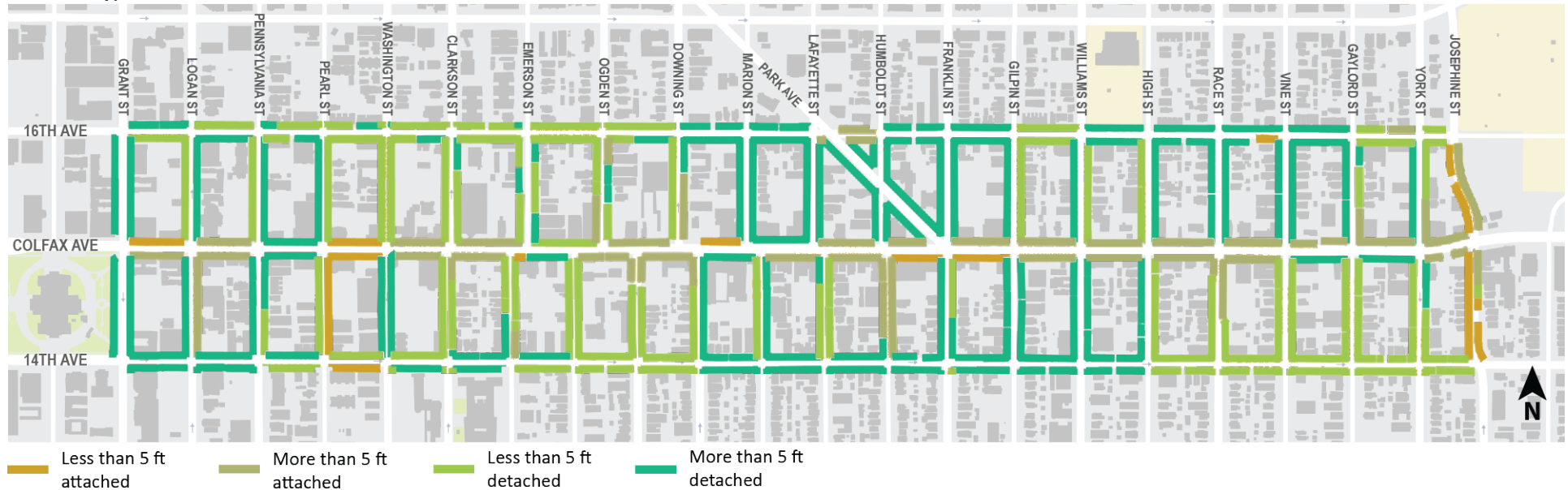
High St between Colfax and 16th Ave; Less than 5-ft detached; overall quality rating 3 (moderate)



Grant St between Colfax and 14th Ave; 5-ft or more detached; overall quality rating 5 (high)



Sidewalk Type



Sidewalk Conditions

Problems with sidewalk conditions, including obstructions (poles, dumpsters, parked cars, overgrown vegetation, etc.), significantly cracked and uneven surfaces, and various other sidewalk problems (which data collectors could specify) generally were associated with lower overall quality ratings. For sidewalks receiving a quality rating of 1 or 2 (lowest ratings), data collectors reported that 17% had obstructions, 23% were cracked or uneven, and 17% had other problems. For sidewalks receiving a quality rating of 4 or 5, data collectors reported that 3% had obstructions, 7% were cracked/uneven, and 5% had other problems. These problems are dispersed throughout the study area, though data collectors reported a higher concentration of problems on the eastern side of the study area.



Significantly cracked and uneven sidewalk along Lafayette St between Colfax and 16th Ave.



A sign obstructs the sidewalk on Humboldt between Colfax and 14th Ave.

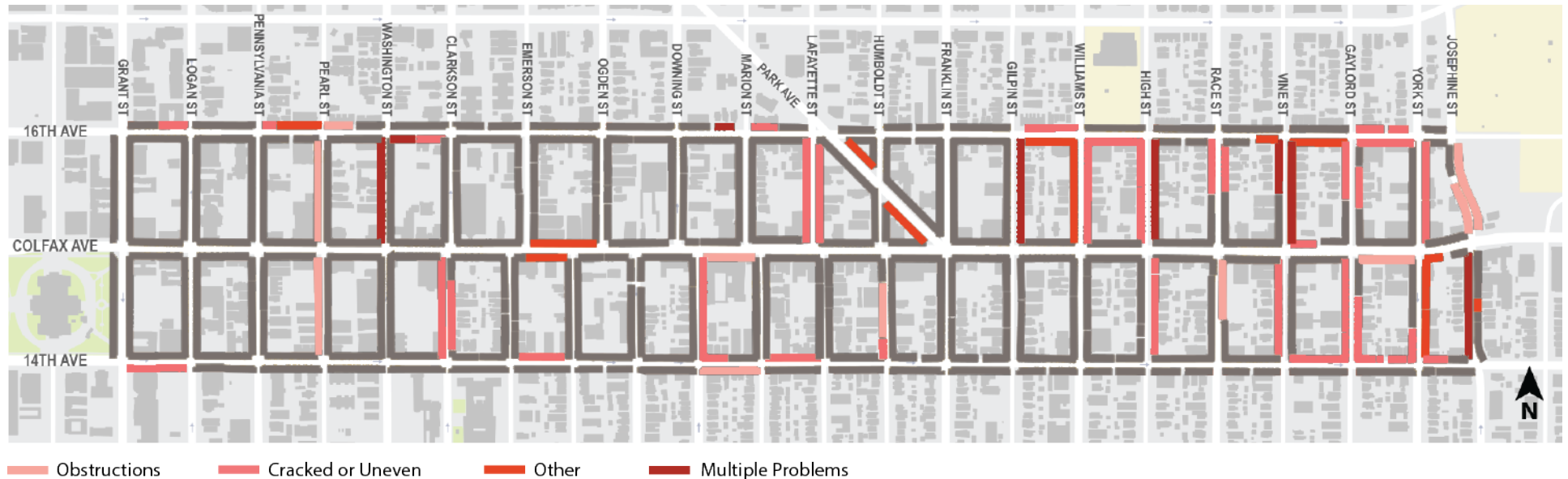
Sidewalk Conditions

Percent of sidewalks with....

	Obstructions	Cracked or Uneven	Other Problems
Low Quality Sidewalks rated 1 or 2	17%	23%	17%
Medium Quality Sidewalks rated 3	14%	39%	2%
High Quality Sidewalks rated 4 or 5	3%	7%	5%

For sidewalks receiving a quality rating of 1 or 2 (lowest ratings), data collectors reported that 17% had obstructions, 23% were cracked or uneven, and 17% had other problems. For sidewalks receiving a quality rating of 4 or 5, data collectors reported that 3% had obstructions, 7% were cracked/uneven, and 5% had other problems. Overall, data collectors reported that only 7% of sidewalks surveyed had obstructions, 18% had cracked or uneven surfaces, and 5% had other problems. These problems are dispersed throughout the study area, though data collectors reported a higher concentration of problems on the eastern side of the study area.

Sidewalk Conditions





(Top) Unsafe traffic speeds were a concern on some stretches of 14th Ave.
 (Bottom) Cyclists riding on sidewalks as well as driveway/alley curb cuts like these on Colfax b/w Clarkson and Emerson are examples of "other" safety concerns.

Safety

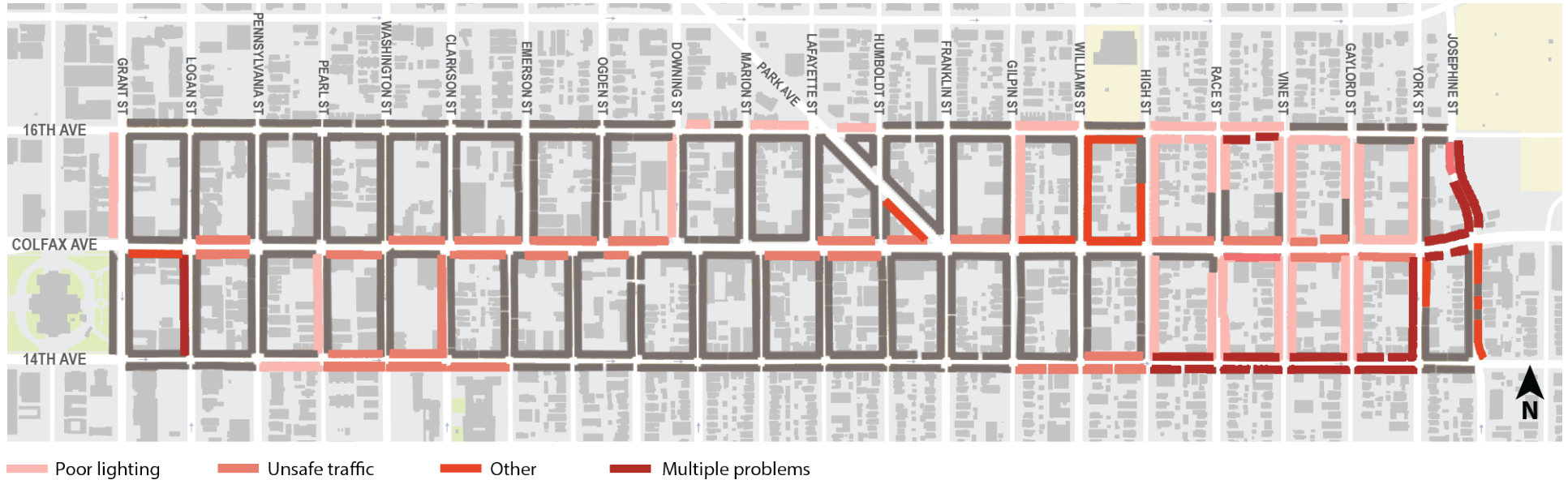
Low sidewalk quality ratings also correlated with safety concerns related to the volume or speed of traffic or other safety problems (which data collectors could specify). Poor lighting or visibility, however, was not associated with lower overall ratings. For the sidewalks that received a quality rating of 1 or 2, data collectors reported that 10% had unsafe lighting or visibility, 24% had unsafe traffic speeds or volumes, and 20% had other safety problems. For sidewalks that received a quality rating of 4 or 5, data collectors reported that 19% had unsafe lighting or visibility, 10% had unsafe traffic speeds or volumes, and only 3% had other problems. Overall, data collectors reported that 20% of the sidewalks surveyed had unsafe lighting or visibility, 20% had unsafe traffic speeds or volumes, and 5% had other safety problems. Concerns about poor lighting or visibility were mostly found on the east side of the study area, while observations of unsafe traffic speeds or volumes were most common along Josephine St, 14th Ave, and Colfax Ave. Many of the "other" safety concerns were associated with vacant or otherwise uninviting buildings/properties as well as the presence of driveway or alleyway curb cuts with cars frequently pulling in and out.

Safety Issues

Percent of sidewalks with....

	Unsafe Lighting	Unsafe Traffic	Other Safety Issues
Low Quality Sidewalks rated 1 or 2	10%	43%	20%
Medium Quality Sidewalks rated 3	24%	28%	6%
High Quality Sidewalks rated 4 or 5	19%	13%	3%

Sidewalk Safety Problems





Large street trees and a wide sidewalk café area help create a pleasant pedestrian environment along Colfax between Marion and Lafayette.

Sidewalk Amenities

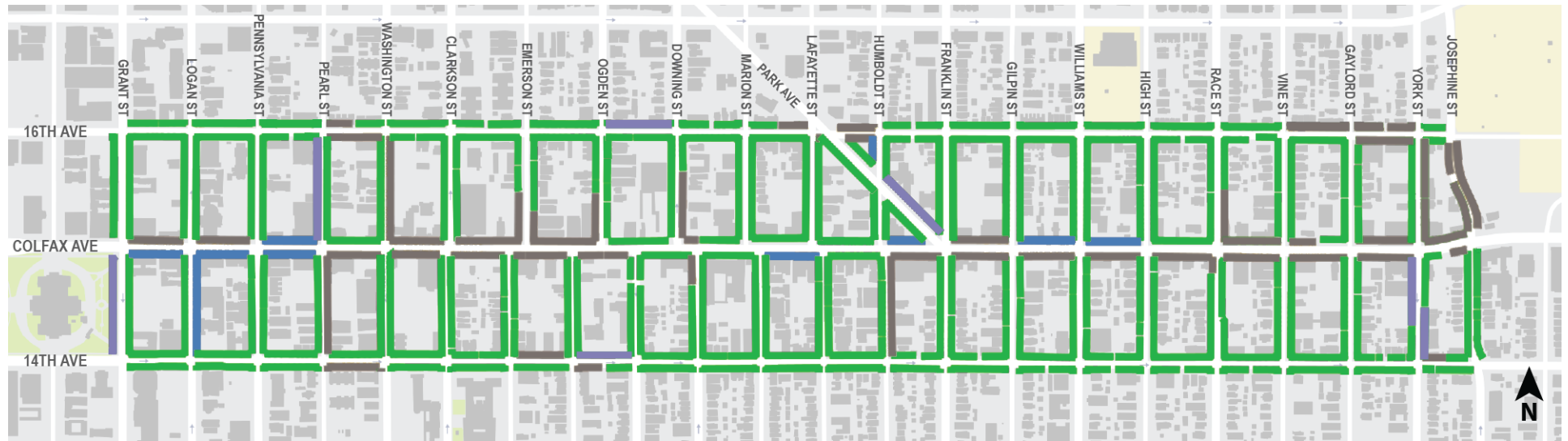
The presence of sidewalk amenities, such as shade trees and quality landscaping strongly correlated with high overall quality ratings, and these amenities are noticeably lacking along Colfax Ave. However, benches, public art, and “other amenities” did not correlate with overall quality ratings, which may be partly due to the poor quality of those amenities. For sidewalks rated 1 or 2, 33% had shade trees, 13% had quality landscaping, and 7% had other amenities (includes benches, public art, or other amenities that data collectors could specify).

For sidewalks rated 4 or 5, 88% had shade trees, 61% had quality landscaping, and 7% had other amenities. Overall, data collectors reported that 79% of sidewalks surveyed had shade trees, 47% had quality landscaping, and 7% had benches, public art, or other amenities. Data collectors reported that shade trees and quality landscaping are much less prevalent along Colfax Ave than in the rest of the study area and other amenities are slightly more prevalent along Colfax Ave.

Sidewalk Amenities			
Percent of sidewalks with....			
	Trees	Quality Landscaping	Other*
Low Quality Sidewalks rated 1 or 2	33%	13%	7%
Medium Quality Sidewalks rated 3	74%	26%	7%
High Quality Sidewalks rated 4 or 5	88%	61%	7%

*Other indicates either benches, public art, or “other amenities”

Sidewalk Amenities



█ Shade trees and/or quality landscaping
 █ Other*
 █ Shade trees and/or quality landscaping with other amenities

INTERSECTION QUALITY

Four main factors related to the overall quality of intersections: driver behavior, traffic controls, the width of the crossing (number of lanes), and pedestrian amenities.

Driver Behavior

Instances of poor driver behavior (based on brief field observations by data collectors), particularly speeding and failure to yield to pedestrians, correlated with overall intersection quality ratings. For intersections rated 1 or 2 (the lowest ratings), data collectors reported that drivers obeyed speed limits at 54% of intersections, yielded to pedestrians at 50%, and obeyed traffic signals and stop signs at 88% of intersections. For intersections receiving a 4 or 5, data collectors reported that drivers obeyed the speed limit at 72% of intersections, yielded to pedestrians at 50% of intersections surveyed, and obeyed traffic signals and stop signs at 88% of intersections. Overall, data collectors reported that drivers obeyed speed limits at 56% of intersections, yielded to pedestrians at 65%, and obeyed stop signs/traffic signals at 90% of intersections. Problems with driver behavior were reported most frequently along Colfax Ave and 14th Ave.

Safety Issues

Percent of intersections where drivers..

	Obey the speed limit	Yield to pedestrians	Obey traffic signals/stop signs
Low Quality Intersections rated 1 or 2	54%	50%	88%
Medium Quality Intersections rated 3	48%	67%	93%
High Quality Intersections rated 4 or 5	72%	83%	89%

Intersection Safety Problems





Pedestrians wait in the center turn lane as they cross Colfax at Vine St, an unsignalized intersection with no crosswalks.

Traffic Controls

High intersection ratings were also associated with the presence of traffic controls, most notably marked crosswalks. Of the intersections receiving a rating of 4 or 5, 6% had all-way stop signs, 78% had traffic signals and/or pedestrian crossing signals, 72% had marked crosswalks for all crossing directions, and 11% had crosswalks for some crossing directions.

For intersections that were rated 1 or 2, 8% had all-way stop signs, 27% had traffic signals and/or pedestrian crossing signals, 35% had crosswalks for all crossing directions, and 7% had crosswalks for some crossing directions.

Overall, 51% of intersections had marked crosswalks for all crossing directions, and 10% had crosswalks for some crossing directions. Although a majority of intersections along busy Colfax Ave and 14th Ave have crosswalks, notable gaps exist in the central and eastern part of the study area. Crosswalks are somewhat sparse (generally spaced two blocks apart) on Colfax between Clarkson St and Williams St. The three block stretch of Colfax Ave between Race St and York St also lacks crosswalks. The 4-block stretch of 14th Ave between Downing St and Franklin St is also missing crosswalks, and the stretch of 14th Ave from Franklin St to York St (a 7 block stretch) is served only by a single mid-block crossing between Williams St and High St.

Traffic Controls

Percent of intersections with...

	Crosswalks - all directions	Crosswalks - some directions	Traffic/ped crossing signals	All-way stop signs
Low Quality Intersections rated 1 or 2	35%	7%	27%	8%
Medium Quality Intersections rated 3	52%	12%	59%	0%
High Quality Intersections rated 4 or 5	72%	11%	78%	6%

Marked Crosswalks





The odd angles created by the 5-way intersection at Colfax/Franklin/Park significantly increase the crossing distance for pedestrians.

Crossing Distance

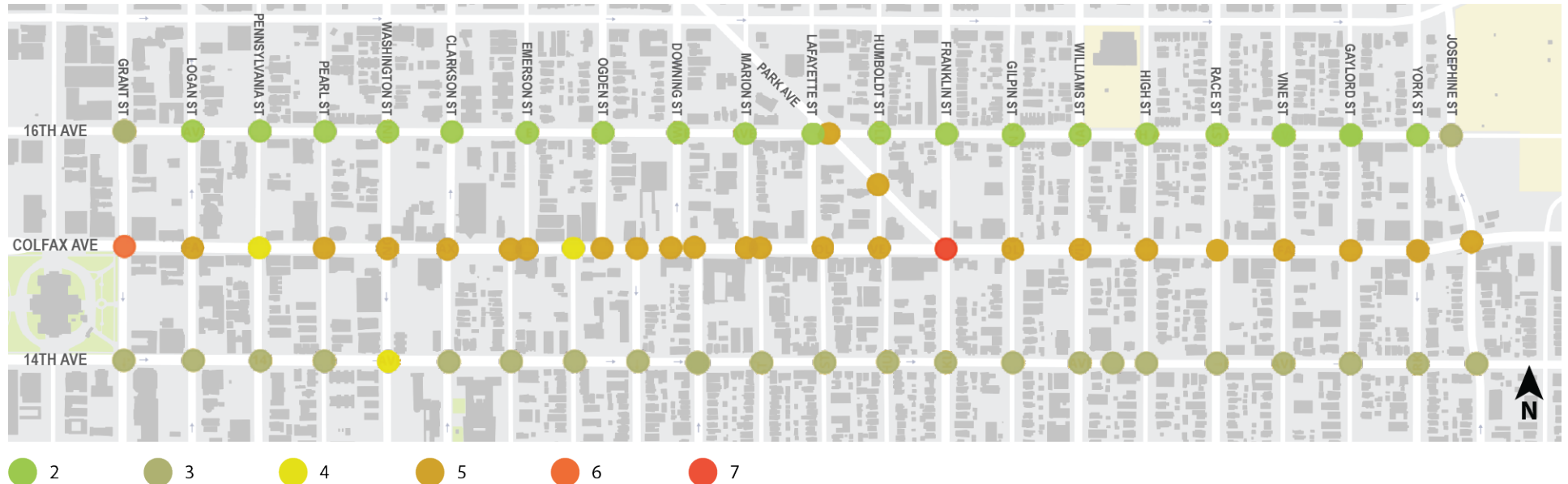
The number of lanes to cross at each intersection (defined as the count of traffic lanes and turn lanes for the widest street at each intersection) also correlated with overall intersection ratings. For intersections rated 1 or 2, the average number of lanes to cross was 3.9. For intersections rated 4 or 5, the average number of lanes to cross was 2.9. Most intersections along 16th Ave have one travel lane in each direction (not counting bike lanes). Intersections along 14th Ave have three eastbound travel lanes (excluding 14th and Washington, which has an extra right turn lane).

Crossing Distance	
	Average number of lanes to cross
Low Quality Intersections rated 1 or 2	3.9
Medium Quality Intersections rated 3	3.6
High Quality Intersections rated 4 or 5	2.9

The Intersections along Park Ave and most intersections along Colfax Ave are five lanes wide (two travel lanes in each direction with a center turn lane), which can be an uncomfortable and dangerous crossing distance, especially at intersections lacking traffic signals and crosswalks. Even at signalized intersections with crosswalks and pedestrian crossing signals, however, the long crossing distances may be a challenge, particularly in locations where awkward intersection geometry creates long diagonal crosswalks, including the intersections along Park Ave and most notably the awkward five-way intersection at Colfax Ave/Park Ave/Franklin St.

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Number of Lanes to Cross





At intersections where streets north of Colfax do not align with streets south of Colfax (such as this one at Colfax and Marion) the curb ramps on one side of Colfax are often not aligned with curb ramps on the other side, causing wheelchair users to travel in the street when crossing at these locations.

Intersection Amenities

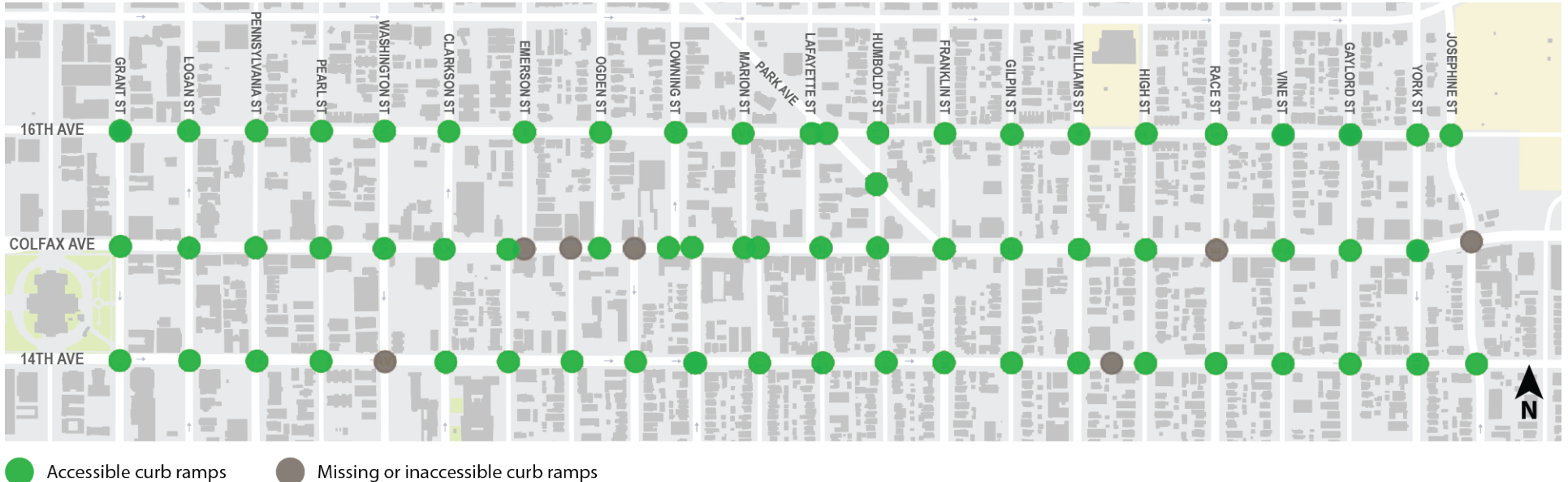
Intersection amenities include curb ramps, bulb-outs/curb extensions, and median refuges. However, only curb ramps are present in the East Colfax study area. The presence of accessible curb ramps was somewhat correlated with higher overall quality ratings. For intersections rated 1 or 2, 88% had accessible curb ramps. For intersections rated 4 or 5, 94% had accessible curb ramps. Overall, data collectors reported that 92% of intersections surveyed had curb ramps. It's also worth noting that intersections that were marked as not having curb ramps may actually have curb ramps at some corners of the intersections but not all of them, or they have curb ramps at all corners of the intersection but the curb ramps are non-directional curb ramps and/or lead onto a too-narrow or obstructed section of sidewalk.

Intersection Amenities

Percent of intersections with...

	Accessible curb-ramps
Low Quality Intersections rated 1 or 2	88%
Medium Quality Intersections rated 3	93%
High Quality Intersections rated 4 or 5	94%

Accessible Curb Ramps



PEDESTRIAN COUNTS AND TRAVEL MODE COMPARISONS

This section summarizes and compares pedestrian and bike count data from CDOT, bus ridership data from the Regional Transportation District, vehicular traffic volume from the Denver Regional Council of Governments, and crash data from the City and County of Denver.

Pedestrian Counts on Colfax Ave

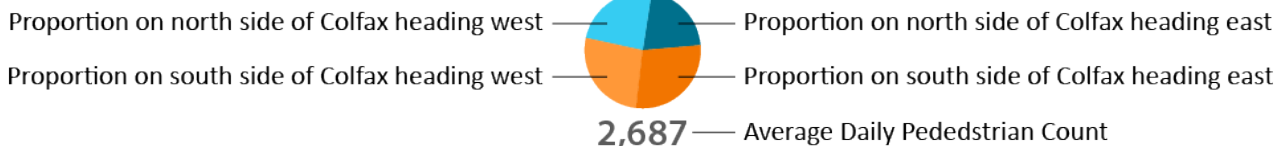
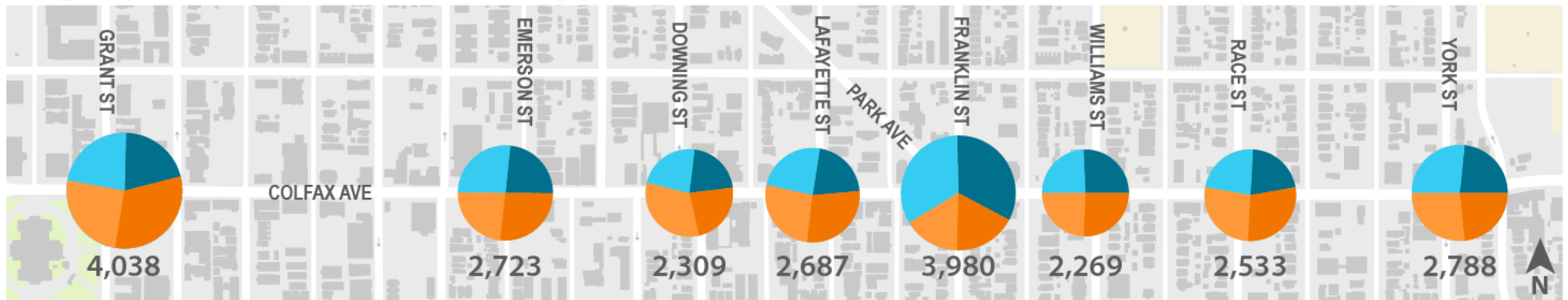
Pedestrian counts on Colfax Ave were recorded over nine one-week periods between mid-May and mid-July 2016, with different locations recorded during different weeks. Data from these counts show higher levels of pedestrian traffic on the west end of the study area (at Grant St) and near the intersection of Colfax, Franklin and Park. The proportion of pedestrians heading east vs heading west was roughly even but varied somewhat by location. Similarly, pedestrian traffic was roughly evenly split between the north and south sides of the street, though the proportion varied by location. Note that counts on Colfax west of Williams St and Colfax east of York St were only obtained on the south side due to malfunctioning equipment. It is assumed that counts on the north side would be similar, and, therefore, the total counts shown at these locations are actually the counts for the south side multiplied by two. Also note that counts may include a small number of cyclists riding on the sidewalk.

Levels of pedestrian traffic followed relatively consistent patterns over the course of the week, peaking around the midday and early afternoon hours (see chart on the following page). The combined total of pedestrian counts for all locations was lowest on Mondays, ticked up sharply on Tuesdays, and remained relatively steady from Tuesday to Friday before declining slightly on both Saturdays and Sundays.

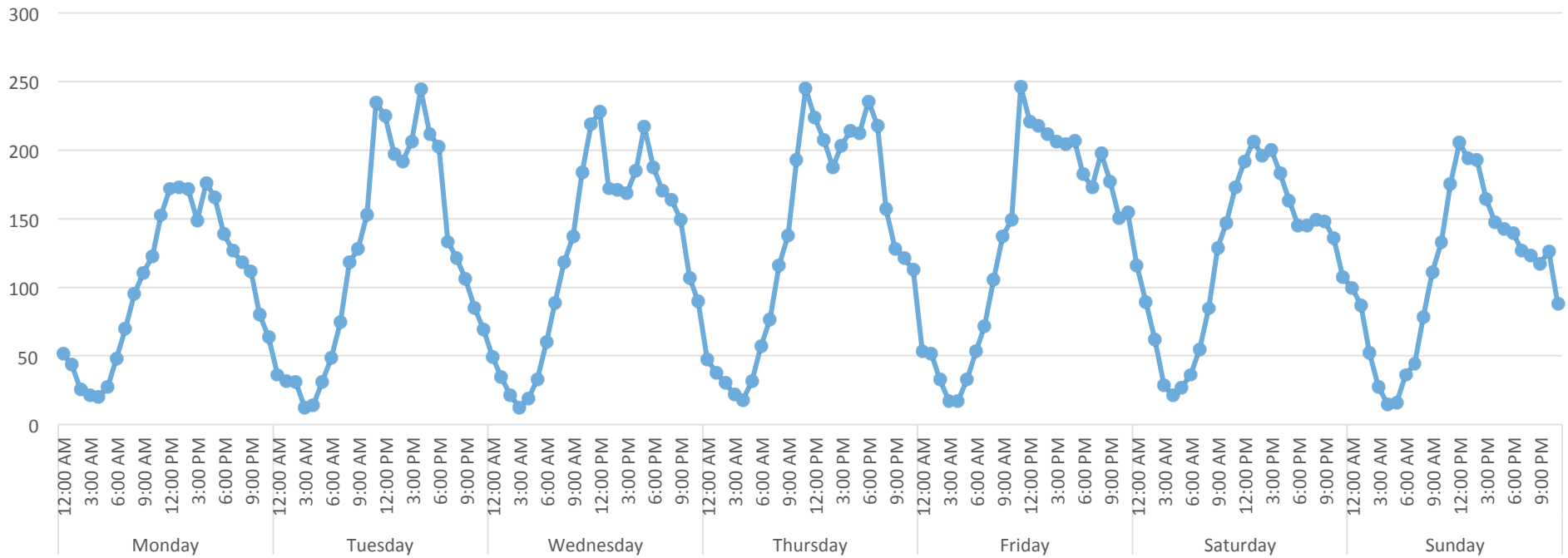


Pedestrian counter being installed at Colfax Ave and Pearl St.

Average Daily Pedestrian Counts at Selected Locations along Colfax Ave



Pedestrian Count by Time of Day (Average Across All Locations)



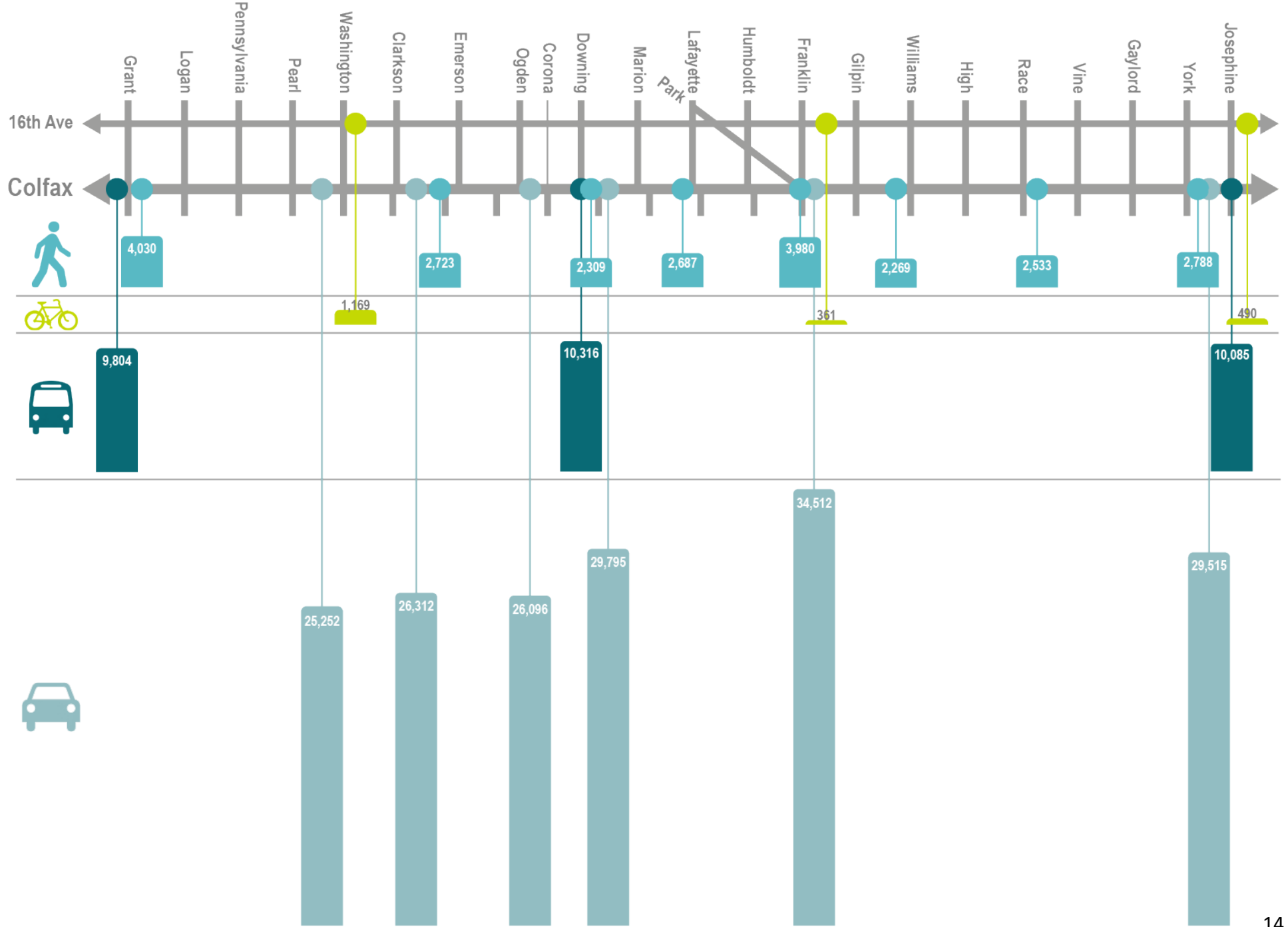
Travel Mode Comparisons

In addition to pedestrian counts, data on the volume of other transportation modes using the East Colfax corridor were collected in order to provide a very rough indication of the relative mode shares for walking, biking, transit, and driving. Traffic counts on Colfax were obtained from the Denver Regional Council of Governments (DRCOG), bus passenger loads were obtained from the Regional Transportation District (RTD), and bike counts on 16th Ave were obtained from CDOT. Because of differences in data collection locations, time periods¹, and collection methodologies, comparisons of average daily volumes across the different modes should be made with caution.

The chart on the following page depicts average daily pedestrian counts, average weekday traffic counts, and average weekday total bus passenger loads (for routes 15 and 15L) on Colfax Ave as well as average daily bike counts on 16th Ave (the only parallel street near Colfax Ave that has bike lanes). The chart suggests that, while driving is the dominant mode along the East Colfax corridor, a significant proportion (about a third) of people are walking, biking, or riding the bus, and this proportion is expected to increase significantly with the planned implementation of bus rapid transit (BRT) on East Colfax.

¹ Average daily pedestrian counts on Colfax were collected between mid-May and mid-July 2016. Average daily (weekday) traffic counts were collected in October 2015 except for the locations east of Downing (March 2014) and east of Franklin (April 2013). Total average daily (weekday) passenger loads for the 15 and 15L routes are from RTD’s Fall 2014 Ridecheck Plus data. Bike counts on 16th Ave were collected in August 2013.

Average Daily Volume by Travel Mode

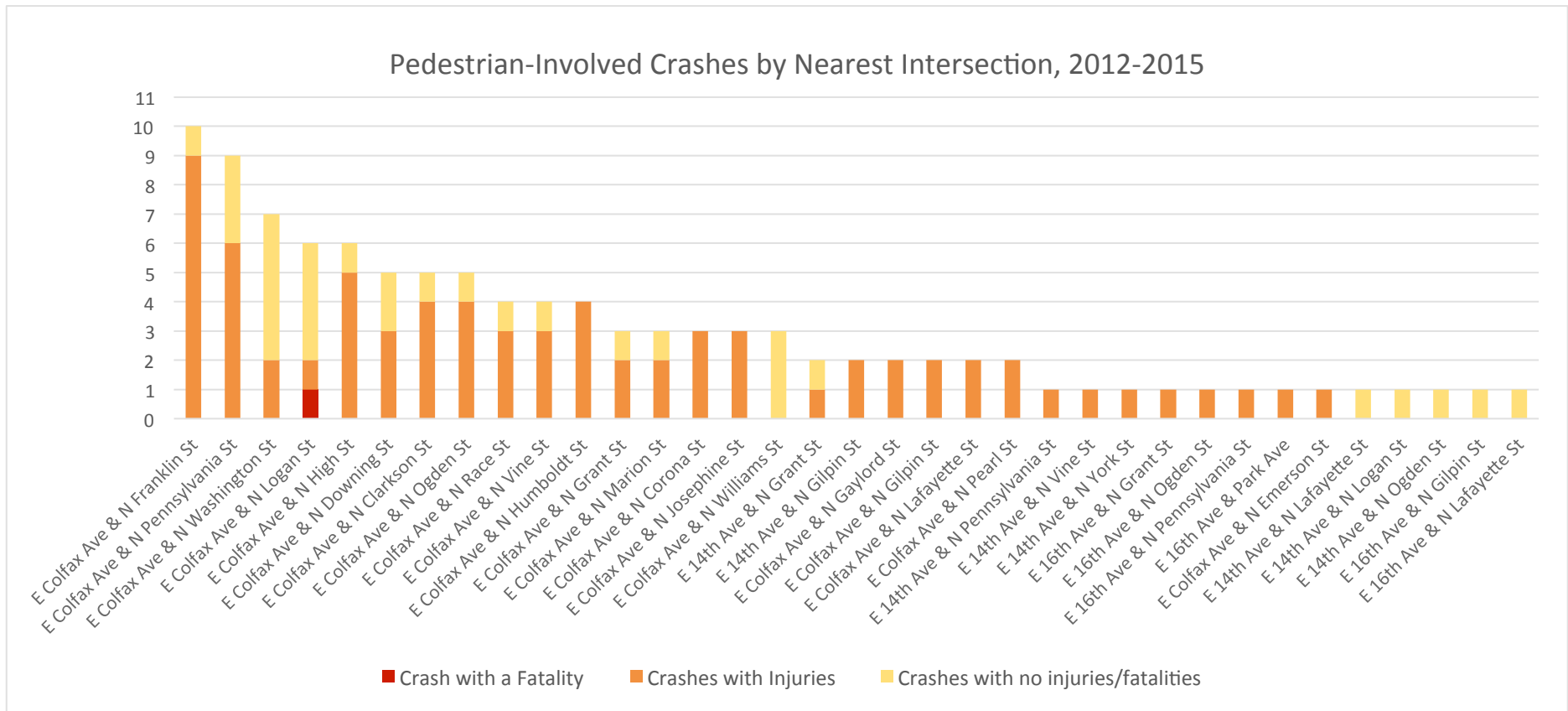


CRASH DATA

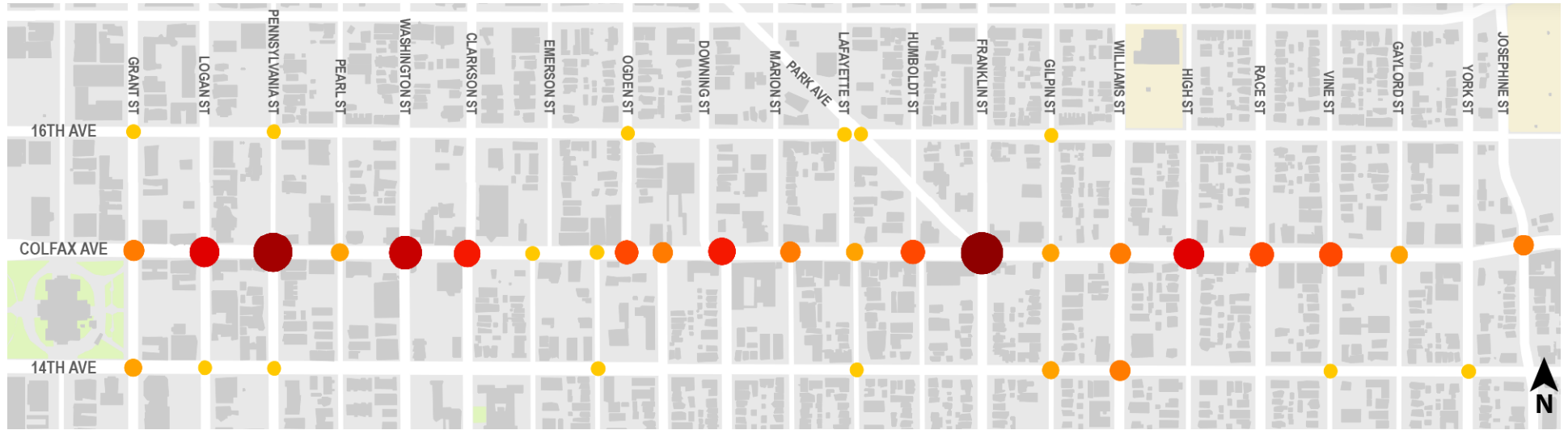
There were 105 crashes involving pedestrians within the study area from 2012 to 2015. The vast majority (89) were located along Colfax Ave. Most (73) resulted in injuries, and one (at Colfax and Logan) resulted in a fatality. Colfax/Franklin and Colfax/Pennsylvania stand out as having especially high numbers of pedestrian-involved crashes (with 10 and 9, respectively). Colfax/Franklin is a five-way intersection where Colfax, Park Ave, and Franklin St all converge, creating awkward diagonal crossing angles, longer crossing distances, poor sight lines for drivers and pedestrians, increased conflict points, and longer wait times for a pedestrian crossing phase (which increases the likelihood of pedestrians crossing without a walk signal). Colfax/Washington, Colfax/Logan, Colfax/High, Colfax/Clarkson, and Colfax/Ogden also have especially high rates of pedestrian-involved crashes, with at least five occurring over the four years between 2012 and 2015. It should also be noted that crash locations are approximate because the Denver Police Department assigns their location to the nearest intersection (even if they occurred at a mid-block location).



The intersection of Colfax, Franklin, and Park Ave saw more pedestrian-involved crashes than any other intersection in the study area.



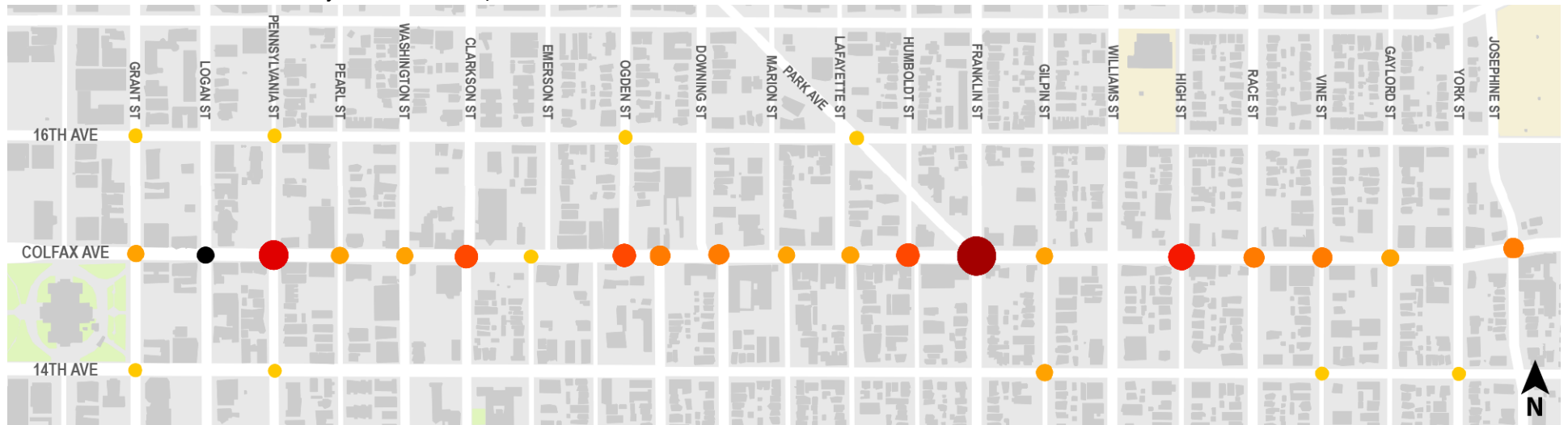
Pedestrian-Involved Crashes, 2012 - 2015



Total Number of Pedestrian-Involved Crashes:



Pedestrian-Involved Crashes with Injuries or Fatalities, 2012 - 2015



Number of Pedestrian-Involved Crashes with Injuries:



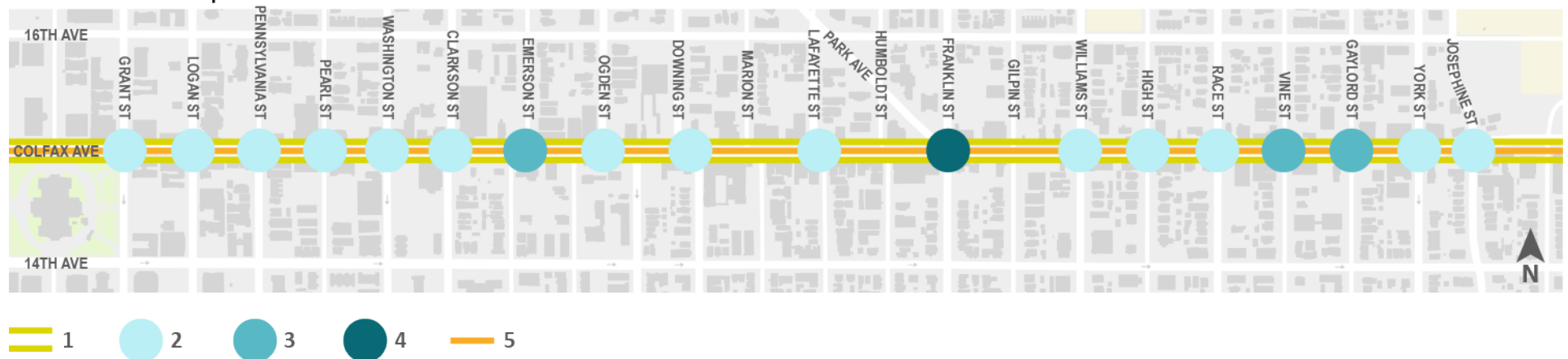
RECOMMENDATIONS

Based on the WALKscope walk audit and other data sources, WalkDenver offers the following recommendations for improving pedestrian access to destinations along the East Colfax corridor:

1. Provide additional trees and quality landscaping along Colfax.
2. Enhance pedestrian crossing treatments at all signalized intersections along Colfax.
3. Add additional signalized pedestrian crossings along Colfax at Emerson and Vine/Gaylord.
4. Redesign the intersection of Colfax Avenue, Franklin Street and Park Avenue.
5. Reduce the number and width of lanes along Colfax wherever possible.
6. Use low-cost, interim design strategies.

These recommendations are highlighted in the following map and discussed in further detail below.

Recommendations Map





Trees in a suspended pavement system in Boston. Source: walknboston on Flickr.

1. Provide additional trees and quality landscaping along Colfax.

One of the starkest contrasts between Colfax Avenue, which generally received low overall quality ratings, and other streets in the study area, which generally received high overall quality ratings, is the lack of trees and quality landscaping along Colfax. During hot summer months, the lack of trees not only makes walking uncomfortable, but can also pose a health hazard for pedestrians. In addition to creating a more pleasant pedestrian environment, street trees offer a wide variety of benefits including significant reductions in stormwater runoff; improved water and air quality; reductions in greenhouse gases like ozone and carbon dioxide; improved pedestrian and driver safety; reduced crime; and higher taxes resulting from increased property values and commercial sales. To maximize this return on investment, the trees should be planted in a suspended pavement or structural cell system specifically designed for challenging urban environments. In this type of system, the pavement is supported by a network of pillars, piles, or structural cells, which support the weight and forces of the pavement above and allows the soil below to remain uncompacted, accommodating tree roots and filtering and managing stormwater runoff. The Business Improvement District should also develop a plan for maintaining the health of the tree canopy over time. The EPA document, *Street Trees: Engineering Urban Forests for Stormwater Management*, provides detailed guidance on design considerations that will allow street trees to survive and thrive well into maturity (EPA 841 B 13 001).

2. Enhance Pedestrian Crossing Treatments at all signalized intersections along Colfax.

The long distances that pedestrians must cross to get from one side of Colfax to another, combined with the volume and speed of traffic along the Avenue, create a major barrier for people traveling on foot. The Business Improvement District is currently planning artistic crosswalk designs for the intersections of Colfax with Williams Street and Race Street, which will increase the visibility of crosswalks and contribute to the corridor's sense of place. Additional enhancements to these and other signalized intersections along Colfax that will increase pedestrian safety include the following:

- Add curb extensions at the corners to shorten crossing distances and increase the visibility of pedestrians by aligning them with the parking lane. Curb extensions can also provide additional space at transit stops.
- Use leading pedestrian intervals (LPIs) to give pedestrians a 3-7 second head start when entering an intersection with a corresponding green signal in the same direction of travel. LPIs have been shown to reduce pedestrian-vehicle crashes by as much as 60%.
- Include an automatic pedestrian phase at all traffic signals (rather than requiring pedestrians to push a button). Pedestrian pushbutton devices are not activated by about one-half of pedestrians, and even fewer activate them where there are sufficient motor vehicle gaps. Including an automatic pedestrian phase will increase



Extended curbs and raised crosswalk. Source: NACTO Urban Street Design Guide

compliance with traffic signals, and reduce pedestrian conflicts with motor vehicles.

- Add flashing yellow arrows to indicate drivers should yield to both oncoming cars and pedestrians when turning left, and to pedestrians when turning right.
- Raise crosswalks across minor side streets that intersect Colfax to reinforce safe travel speeds, increase pedestrian visibility, and encourage vehicles to yield to crossing pedestrians.

3. Add additional signalized pedestrian crossings along Colfax at Emerson and Vine/Gaylord

While many of the intersections along Colfax currently have signalized pedestrian crossings, noticeable gaps occur near the bus stops located at Emerson and between Vine and Gaylord. As a result, pedestrians frequently cross midblock at these locations. New signals at these locations could be traditional traffic signals, or pedestrian hybrid beacons that are only activated by pedestrians when needed, consistent with the City and County of Denver’s recently adopted pedestrian crossing guidelines.



Pedestrian hybrid beacon. Source: Federal Highway Administration.

4. Redesign the Intersection of Colfax Avenue, Franklin Street, and Park Avenue

The complex design of the intersection of Colfax with Franklin Street and Park Avenue means that this intersection is not only the top location for pedestrian crashes within the study area, but also one of the top five most dangerous intersections for pedestrians in the entire City. Simplifying the intersection by vacating the section of Park Avenue between Humboldt and Franklin (so that Park Avenue ends at Humboldt) would increase safety for all users by slowing down turning vehicles, reducing crossing distances, and enhancing overall clarity and visibility of the intersection with Colfax (See Concept 1). In the long term, Humboldt Street north of Colfax could also be shifted to the east, to better align with Humboldt Street south of Colfax and facilitate the flow of traffic to/from Park Avenue (See Concept 2).

Existing Condition



Concept 1: Use Existing Humboldt St Right-of-Way



Concept 2: Realign Humboldt St North of Colfax



5. Reduce the number and width of lanes along Colfax wherever possible.

High traffic speeds create significant safety concerns for pedestrians along much of Colfax. Narrowing the street by reducing lane widths and/or eliminating the middle turn lane (for example, where turns are prohibited) would promote slower driving speeds which, in turn, would reduce the severity of crashes. Narrowing the street would also create additional space for sidewalks, street trees, landscaping, and other pedestrian amenities along the corridor. Lane widths of 10 feet are appropriate in urban areas and increase a street's safety without impacting traffic operations. Widths of 11 feet may be used for one lane in each direction to accommodate transit vehicles. Lanes greater than 11 feet cause unintended speeding and assume valuable right of way at the expense of other modes.

6. Use Low-Cost, Interim Design Strategies

Recognizing that it may take several years to identify funding for and implement the changes outlined above, the Business Improvement District can deploy low-cost, interim strategies to test out some of the design concepts in the near term. For example, curb extensions can be simulated using materials such as epoxied gravel, planter beds, and bollards.



The City and County of Denver used pavement markings to create temporary curb extensions at the intersection of 17th and Wynkoop. Source: WalkDenver