Midtown Crossings Project

Greenwood Quick-Build Post-Construction Monitoring

Summary of Public Feedback and Traffic Data – Fall 2024

Final compiled data submitted December 10, 2024

The Greenwood Quick-Build is a one-year pilot project to evaluate the safety and operations impact of transforming the existing roadway on Greenwood Avenue from Second Street to Wall Street to a three-lane cross section with buffered bike lanes. This report summarizes the first month of post-construction public feedback and 48 hours of traffic data collected to assess outcomes from the Quick-Build improvements. A second report will be provided in March 2025, and a final report in early summer 2025.

This report focuses on the public perception of the Greenwood Quick-Build with supporting traffic data as reference.

jla Public Involvement

All public feedback was collected and analyzed by JLA Public Involvement. A voluntary online survey was promoted by window clings displayed in local businesses, sidewalk decals placed along the corridor bike lanes, email and social media posts. After the time of this summary, a road sign was installed to alert drivers to the survey, so future reports will likely include responses from more people who drive.

JLA is collecting public feedback on the project to understand how it is perceived by travelers through the corridor in their daily lives.

116 Public feedback responses were submitted from September 24 through October 14, 2024.

This is not a statistically valid survey.

KITTELSON & ASSOCIATES

All traffic data was analyzed by Kittelson & Associates, Inc. Kittelson will monitor the pre- and post-construction volume, travel speed, and travel time data to assess the project's effects on traffic operations. Please see the full **Traffic Monitoring Summary** for more detailed traffic data.

As part of the monitoring process, the following data were collected on **September 24 and 25**:

Traffic Count Data

- 48-hour travel volume, speed, and vehicle classification data for vehicles
- 48-hour pedestrian and bicycle volumes

Travel Time Data from

- Google API
- INRIX

Key Traffic Data & Summary of Findings

For the full analysis of these results and detailed procedure used in this traffic data, please see the **Traffic Monitoring Summary (TMS)**. This report includes just a snapshot of the key findings and figures.

While these results provide insight into vehicle travel times and multimodal usage, it's important to note that numerous factors such as weather, events, and crashes can influence these metrics. Therefore, definitive conclusions on the project's positive or negative effects are premature and will require ongoing monitoring. This section provides general observations based on the data collected thus far.

Volume: Vehicles, Pedestrian, Bicycle

48 hours of vehicle, pedestrian, and bicycle counts were collected at two locations on Greenwood Avenue:

- between Harriman Street and Hill Street (west of Hill Street).
- between Hill Street and 1st Street (east of Hill Street near the undercrossing).

The data were collected on the following dates:

- Pre-construction: Tuesday May 14, 2024, and Wednesday May 15, 2024
- Post-construction: Tuesday Sep 24, 2024, and Wednesday Sep 25, 2024

Vehicle volume.

- Post-construction **traffic volumes are lower** than pre-construction volumes by 18-20%.
- Westbound volumes dropped by a larger percentage (21 and 25 percent) compared to eastbound volume reductions (16 and 17 percent).

Table 1: Greenwood Avenue Average Daily Vehicle Volume Summary

Location and Direction	Pre-construction (May 2024)		Post-construction (September 2024)			
	Volume		Volume		% Difference from Pre-Construction	
	East of Hill St	West of Hill St	East of Hill St	West of Hill St	East of Hill St	West of Hill St
Eastbound traffic	10,079	8,526	8,492	7,103	-16%	-17%
Westbound traffic	7,842	7,046	6,227	5,313	-21%	-25%
Total traffic	**17,921**	**15,572**	**14,719**	**12,416**	**-18%**	**-20%**

Pedestrian volume.

- Pedestrian volumes **decreased by 30 and 42 percent**. The decrease is especially significant at the northern sidewalk of Greenwood Avenue (decreased by up to 53 percent).

Table 2: Greenwood Avenue Average Daily Pedestrian Volume Summary

Location and Direction	Pre-construction (May 2024)		Post-construction (September 2024)			
	Volume		Volume		% Difference from Pre-Construction	
	East of Hill St	West of Hill St	East of Hill St	West of Hill St	East of Hill St	West of Hill St
North Sidewalk	154	349	93	163	-40%	-53%
South Sidewalk	56	126	53	114	-5%	-10%
Combined Total	**209**	**474**	**146**	**276**	**-30%**	**-42%**

Note: Average volumes were rounded and might not add to total volume.

Bicycle volume.

- Bicycle volumes **increased by 24 and 64 percent**, which aligns with the bike lane added along the corridor and suggests a shift in how people use the street post-construction.

Table 3: Greenwood Avenue Average Daily Bicycle Volume Summary

Location and Direction	Pre-construction (May 2024)		Post-construction (September 2024)			
	Volume		Volume		% Difference from Pre-Construction	
	East of Hill St	West of Hill St	East of Hill St	West of Hill St	East of Hill St	West of Hill St
Eastbound	53	55	71	89	+33%	+61%
Westbound	55	46	63	77	+15%	+67%
Combined Total	**108**	**101**	**134**	**166**	**+24%**	**+64%**

Note: Average volumes were rounded and might not add to total volume.

Vehicle Speed Distribution

In general, **speeds dropped by two to four mph (from 30-34 mph to 26-32 mph)** along the corridor with the quick-build changes. Lower speeds increase safety for all people on the corridor but especially those biking or walking.

Table 4: Greenwood Avenue two-day aggregate - 85th Percentile Speed

Location and Direction	Pre-Construction Speed (mph)		Post-Construction Speed (mph)	
	May 2024		September 2024	
	East of Hill St	West of Hill St	East of Hill St	West of Hill St
Eastbound	34	32	32	28
Westbound	33	30	29	26

With a time-of-day trend analysis of the corridor, Kittelson found the average speed is generally consistent throughout the day.

- Pre-construction, the average speed ranged from 25 mph to 35 mph.
- Post-construction, the average speed ranged from **20 mph to 35 mph**, except for westbound traffic at the west of Hill Street location, which dropped below **20 mph (15 to 17 mph)** between 11 AM and 5 PM.

Travel Time Analysis

This section compares pre- and post-construction travel time findings from two data sources, INRIX and Google API. To monitor the cumulative, systemwide effect of the Quick-Build project, three parallel corridors are included in this analysis, as shown in Figure 1 and described below. Please see tables 6, 7, 8 and 9 in the TMS for full details of these results.

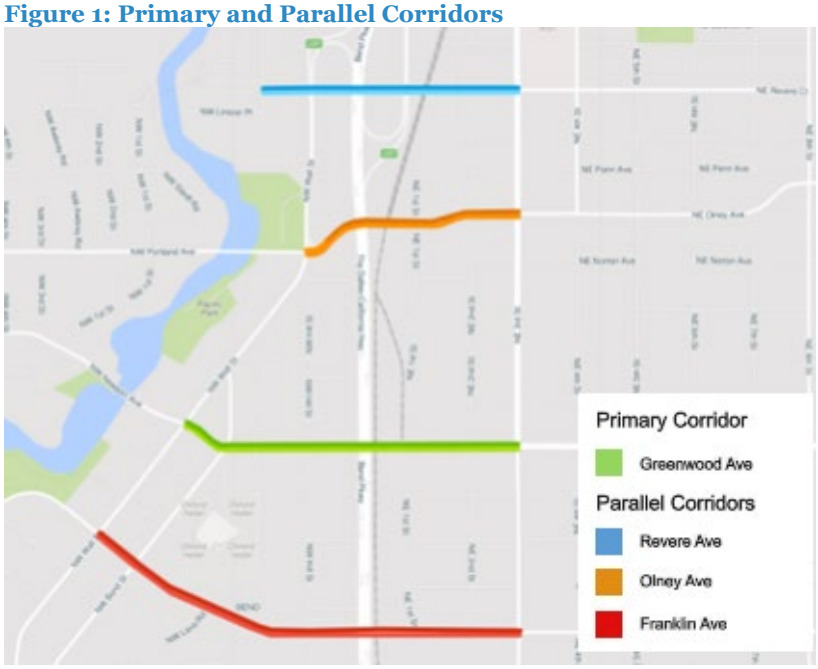
Primary Corridor:

- Greenwood Avenue, from Wall Street to 3rd Street.

Parallel Corridors:

- Revere Avenue, from Harriman Street to 3rd Street.
- Olney Avenue, from Wall Street to 3rd Street.
- Franklin Avenue, from Wall Street to 3rd Street.

Figure 1: Primary and Parallel Corridors



Travel time results varied between the two data sources: INRIX travel times were generally shorter than Google API travel times. This discrepancy might be due to several factors:

- INRIX travel time data are based on pre-determined XD segments that may not precisely align with the origins and destinations specified in Google API queries.
- It is unclear how the two platforms handle boundary intersections at the ends of the selected corridor (i.e., whether the delays at the first and the last intersections are included in travel time results).
- Google API uses historical speed data as part of the travel time estimate and might lag in reflecting the latest trends in travel times. In contrast, INRIX data are based on GPS-enabled devices and road sensors and were filtered to only include real-time data for this analysis.

Based on the methodology of the two data sources and the observed drop in 85th percentile speed on Greenwood Avenue, it is likely that the INRIX travel times better reflect the current conditions.

Travel times are not compared directly between the data sources. Instead, trends are observed within each data source relative to pre- and post-construction conditions.

- INRIX average daily travel times along Greenwood Avenue **increased by 14 to 16 percent**, while Google API average daily travel times **decreased by 1 to 4 percent**.

Daily Average Travel Time

INRIX Travel Time Data: In general, INRIX data shows average Greenwood Avenue travel times **increased in both directions**, which is consistent with the travel lane removal and the observed drop of 85th percentile speed.

- Eastbound average travel times increased by 12 seconds, representing a **14 percent increase**.
- Westbound average travel times increased by 14 seconds, representing a **16 percent increase**.

Google API Travel Time: The Google API data presents a notably different picture of travel time trends before and after the Quick-Build project. Along Greenwood Avenue, the data indicates **improved travel times in both directions**, contrasting with the INRIX findings:

- Eastbound average travel times decreased by 5 seconds, representing a **4 percent drop**.
- Westbound average travel times decreased by 2 seconds, representing a **1 percent drop**.

Parallel Corridors : Travel times along the parallel corridors were also inconsistent between the two sources, Google and INRIX. Changes on Revere Avenue and Frankin Avenue were minimal or remained essentially the same. Travel times on Olney Avenue increased according to both sources, by as low as one percent and up to 25 percent. Longer travel time on Greenwood Avenue might cause some drivers to divert to a parallel route, which would result in the expectation of longer travel times there as well. These times suggest the diversion has minimal impact on the parallel corridors.

Average Travel Time on Parallel Corridors	INRIX Data	Google data
Revere and Franklin	Increased up to four percent (five seconds).	Decreased by up to four percent (seven seconds) or remained essentially the same.
Olney	Increased by one and three percent.	Increased, by 21 percent (20 seconds) and 25 percent (22 seconds).

Peak Hour Travel Time

Kittelson also analyzed peak hour travel time as it reflects the highest travel demand and therefore the most congested condition. For this analysis, peak hour is identified as the 60-

minute period with the highest pre-construction volumes, which is between 3:00 and 4:00 PM at both count locations.

INRIX: Compared to the daily average travel time, peak hour travel time increases are more substantial along Greenwood Avenue:

- Eastbound, the average travel times increased from 1 minute 33 seconds to 1 minute 52 seconds, representing a **20 percent increase (19 seconds)**.
- Westbound, the average travel times increased from 1 minute 33 seconds to 1 minute 57 seconds, representing a **26 percent increase (24 seconds)**.

INRIX: Travel times along the parallel corridors increased to a lesser extent compared to Greenwood Avenue or decreased slightly.

- Westbound Olney Avenue increased eight percent [five seconds] and westbound Franklin Avenue increased seven percent [ten seconds].
- Travel times on other corridors increased by up to four percent (six seconds).

Google API: Along Greenwood Avenue, similar to the average daily travel times, peak hour travel times also decreased:

- Eastbound peak hour travel times decreased from 2 minutes 35 seconds to 2 minutes 25 seconds, representing a **6 percent decrease (10 seconds)**.
- Westbound peak hour travel time remained the same.

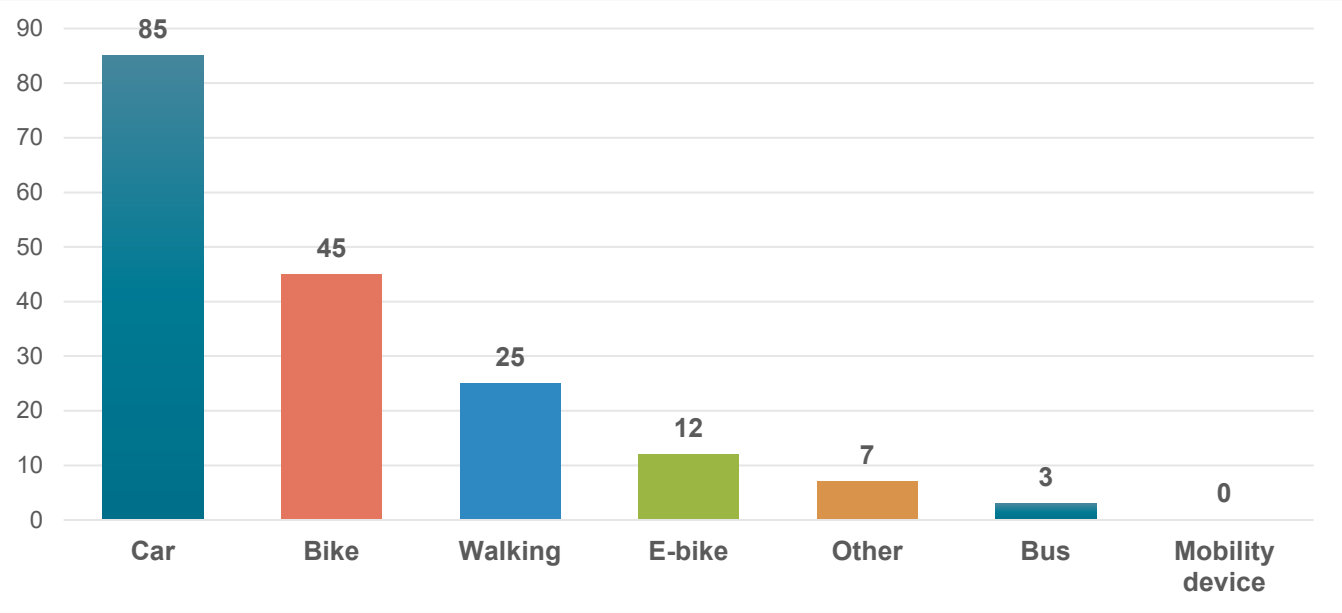
Google API: Travel times along the parallel corridors decreased, except Olney Avenue, where travel times increased in both directions:

- Olney Avenue eastbound travel time increased by 18 percent (17 seconds), westbound increased by 23 percent (22 seconds).
- Travel time on other parallel corridors decreased by up to 9 percent (15 seconds).

Respondent Profile

We asked participants how they **usually travel,** to understand who was completing the voluntary feedback form. They could select more than one option.

Graphic 2: How participants travel



Others mentioned:

- Electric scooter (1)
- One-wheel (1)
- Motorcycle (1)

With the addition of the bike lane on Greenwood Avenue, the high number of bike riders participating in the survey makes sense. The traffic volume data also supports an increase in bike use. We expect the January follow up report to show additional response from drivers as increased outreach began after the tracking period for this report.

Feedback Summary

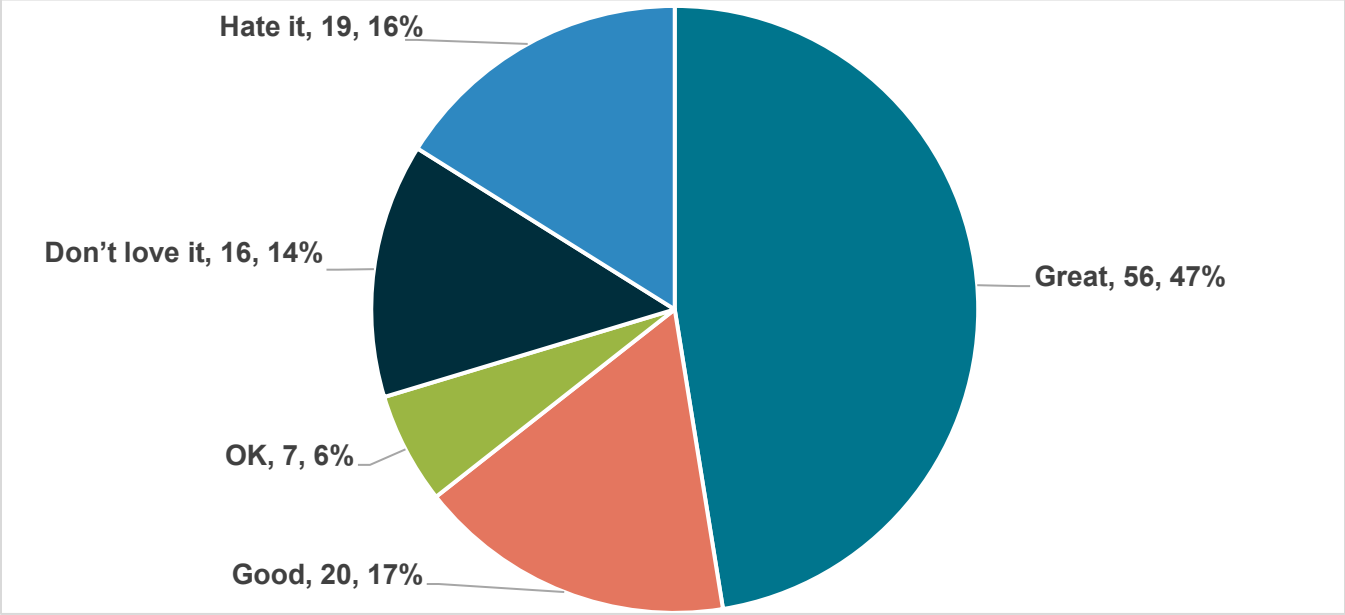
In the comments sections below, numbers in parenthesis (#) indicate the number of times that idea was mentioned.

Use of the corridor

We asked the public: **Overall, how well is the new design working for you?**

Responses were primarily favorable with 47% giving the highest rating of "Great" and **64% being within the positive range** (Great or Good). Just 16% responded with the lowest rating of "Hate it".

Graphic 1: How well is the new design working for you?



To get more detailed information, we asked participants: **Is the new Greenwood working better for you? Have you noticed any new points of conflict between bikes, cars, or people walking, or difficulty with parking?**

Many expressed appreciation

- Respondents feel safer or more comfortable biking, walking and driving. **(46)**
  - Huge improvements between 1st and Hill Streets.
  - More comfortable to walk and bike on Greenwood with new changes, feels safer and less stressful.
  - A respondent shared that it's easier to walk and cross the street to get to the Theater.
- Respondents appreciate the left turning lanes, which makes traffic flow more steadily. **(7)**
- Some respondents like the one wider traffic lane. **(4)**
  - Especially the roadway between the underpass and downtown.

    - Feels like an improvement in slowing down cars.
    - Easier turning onto Greenwood Ave.
- Respondents have not noticed an increase in traffic congestion. **(3)**

Some had concerns

Location specific conflicts

- **1st Street Intersection (4)**
    - The pedestrian crossing at 1st Street still feels unsafe. (**2)**
    - Bike lane marking transition needs improvement. It feels awkward/confusing coming from the west and either turning right down 1st or continuing to 3rd, its not entirely clear what is expected. **(2)**
    - SW corner of 1st Street intersection has a "strangely placed" bollard right in the biker's turning lane. The placement does not consider how bikers maneuver through the intersections, especially bikes with trailers.
        - Some bikers turn on 1st Street here to avoid biking on Greenwood and bike to Hawthrone to cross 3rd Street.

- **2nd Street Intersection (3)**
    - Westbound, people on bikes cannot turn left across Greenwood from 2nd to access the low stress network**. (2)**
    - There is no pedestrian crossing at 2nd or anywhere east of the railroad, until 3rd.

- **Between 2nd and 3rd Streets (7)**
    - The bike lane transition between 2nd and 3rd Streets confuses bicyclists. The bike lane seems to "abruptly end" and cause confusion for bikers who continue through 3rd Street. Bike lane marking needs to show the transition to the next street. **(7)**
        - Abrupt bike lane ending has caused conflict between bikers and drivers. **(4)**
            - This is confusing, dangerous, and a "surprise" for bikers. **(2)**
    - A couple respondents shared that biking on the sidewalk was safer until after crossing 3rd Street. **(2)**
    - A respondent suggested having a turn lane at the light (on 3rd Street) instead to decrease traffic backed up at 2nd Street.

- **3rd Street Intersection (10)**
    - Difficult to cross on bike **(2)**
        - A respondent shared almost getting right hooked by a truck trying to turn.
    - Westbound, no warning for cars that the right lane becomes a right-turn-only lane.
        - Bikes sharing the right lane with cars trying to merge left into through lane causes conflict.

    - Eastbound, merging with the right turn lane causes conflict.
        - Conditions are okay for experienced riders but not the general public.

- **Harriman Street Intersection (2)**
    - Drivers failing to yield to pedestrians crossing at Harriman.
    - The median here obstructs pedestrians and bikers' views from vehicle traffic in both directions.
    - A respondent suggested adding pedestrian crosswalk lights because the eastbound view of car traffic is partially blocked by the road curve at Bond St.

- Between Bond and Hill Streets -- Bike lanes are still too close to cars. With cars often speeding on this roadway, bicyclists feel heightened stress and danger.
- No warning or flashing lights to push indicating pedestrian crossing at non-traffic light intersections.

Some shared complaints

Traffic

- Overall congestion feels more significant, and travel is slower. **(11)**
- Locations where traffic backs up:
    - 3rd Street - Eastbound many are trying to turn left. Westbound traffic transitions from 2 lanes to 1 lane.
    - Wall Street – Traffic going east in the middle and late afternoons.
    - At left turn lanes. **(2)**
- Additional traffic is a safety hazard for law enforcement, emergency vehicles, and on-call health professionals.

Parking

- No street parking at certain businesses / finding parking in the area is difficult. **(8)**
    - No parking on the north side, cited Hill and Harriman streets.
    - Changes are impacting business sales, and some owners are considering relocating businesses. (**3)**
- Cars parked on the bike lane. **(7)**
    - Request better parking enforcement. **(2)**

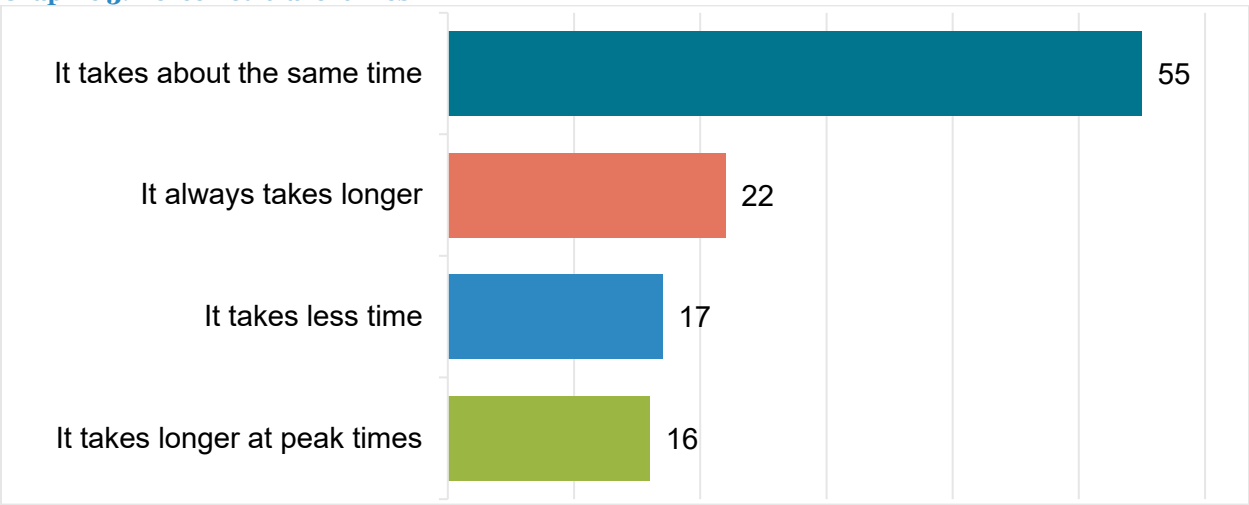
"The bike lanes are now full of parked cars of parents trying to get their youth to ballet classes or patrons trying to get to the thrift shop or taverns."

- Experiencing difficult interactions between people parking vehicles and those traveling in the bike lane. **(4)**
    - A bicyclist shared getting doored by a driver exiting a parked car, another got trapped between being doored while a car was passing on the left.
    - A respondent suggested curb tight bike lanes to reduce the number of conflicts with parked vehicles.

Travel Times

We asked respondents **How have these changes affected your travel time?**

Graphic 3: Perceived travel times



Given the traffic data results for travel times, it fits that many participants did not notice a change in travel time.

Is there anything else you'd like to share with us?

- Many respondents shared “Thank you” for the project construction and safety improvements. **(39)**
- Several respondents disapprove of the project and new construction. **(15)**
- Many wanted more protection for bicycles, when possible, through different methods: narrow traffic lanes, wider sidewalks and bike lanes, curbside bike lanes, more barriers, and bollards. **(9)**
- Concern over snow removal in the winter. **(3)**
- Some continue to advocate to remove street parking on Greenwood and replace with two traffic lanes. **(3)**
- Some respondents stated they don’t often see bikers using bike lanes. **(3)**
    - Bikes still riding on the sidewalk because it is safer. **(2)**
    - Concerns that bike lanes will become “useless” in snowy and icy weather.
- More daylighting at intersections for bikes and pedestrians.
- Cars need more room and lanes on major E/W artery road. **(2)**
    - Roads feel narrower for truck drivers.