

WASHINGTON BLVD CORRIDOR STUDY

Introduction

The Village has had many complaints of speeding along the corridor of Washington Blvd and considering a past study's findings that parking was severely underutilized throughout Washington Blvd the Village Traffic and Safety Commission wanted to consider either a road diet or installing other traffic calming measures to mitigate speeding.

Initially TEG assessed existing conditions throughout the corridor. TEG began by collecting traffic volumes on the road at Thatcher Ave, Franklin Ave, and Lathrop Ave to understand how the road operates at peak hour times. TEG then gathered all crash data along the intersections and segments and analyzed it to determine patterns throughout the corridor and to locate segments/intersections that pose a hazard to driver safety. Lastly resident survey data was incorporated into the decision-making process with more emphasis being placed on responses from those living along and/or near the road. These three components were combined to develop overall recommendations for the corridor along with specific recommendations for intersections as TEG deemed necessary.

Existing Conditions Assessment

Washington Blvd is a 2-lane bidirectional Major Collector in the Village of River Forest. The ADT as of 2022 is 5,700 vehicles and the speed limit is 25mph. Speed limit signs are posted for both directions periodically through the corridor including a driver feedback sign for eastbound drivers. There is striped on-street parking provided on both sides of the road throughout the corridor. Washington Blvd is designated as a bike path within the Village. Bike facilities along Washington Blvd include on-street pavement markings for shared lane usage but no dedicated bike lane. In total there are two signalized intersections, two all-way stop intersections, and four minor leg stop intersections where Washington Blvd is the non-stopping route.

The typical cross section of Washington Blvd is two 12' lanes with 8' of parking on either side. The total width of the road is 40'. The road narrows to 36' at a railroad overpass located between Park and Forest Ave with 12'-7" of overhead clearance. The speed along all crossroads is 25 mph.

Notable off-road features include lighting throughout the corridor and sidewalks along both sides of the road with periodic crosswalks at intersections. There are two parks (Washington Square Park and Washington Commons Park) near Forest Ave north and south of Washington Blvd. East of Park Ave there is a third park south of Washington Blvd (Washington Triangle Park). The corridor is primarily residential with no businesses in the area. The road is designated as a bike route per the Village's bike plan and painted bike symbols have been placed throughout the corridor to make drivers aware cyclists may be using the road.

Currently, the Washington Blvd bridge is about to be reconstructed with a two-lane cross section and dedicated bike lanes on either side. – Regardless of the bridge cross section Washington Blvd should have a standardized cross section that ties into the proposed bridge cross section cleanly and does not result in drivers/cyclists/pedestrians crossing into or out of the Village to find their lane/path abruptly ends with no recourse. Any lane addition or subtraction should be done using standard taper lengths and should be signed in advance. As noted above the existing condition at the bridge is a four-lane cross section with no transition to the two-lane cross section used along Washington Blvd in the Village. TEG summarized any notable features we discovered through analyzing each intersection in the corridor:

Washington Blvd @ Thatcher Ave

- All way stop intersection
- The west leg of the intersection is a 4-lane cross section with no transition to the 2-lane cross section on the east leg.
- Ladder style crosswalk on east leg

This is the second highest volume intersection along Washington Blvd and is the highest unsignalized volume. Recent traffic counts at the intersection show lower ADT volumes than what is listed on IDOT's IRoads System. Thatcher Ave was shown to have an ADT over 4,500 from TEG's recent traffic counts vs. an ADT of approximately 11,000 in 2022 IDOT counts. We believe the IRoads count was conducted closer to the intersection between Thatcher Ave and North Ave where volumes are much higher. Washington Blvd ADT matched what IDOT had in their system (5,300 in TEG count and 5,700 on IRoads). The intersection was analyzed with Thatcher Ave as the minor leg.

Washington Blvd @ Gale Ave

- Minor leg stop intersection (North/South legs stop)
- Both northbound and southbound traffic have compromised sightlines of the far lane of traffic due to trees and vegetation
- Ladder style crosswalks on north and south legs

This is a standard minor stop intersection with Washington Blvd as the non-stopping route. There are no apparent geometric issues with the intersection. It appears driver sightlines on the north and south leg may be compromised seeing traffic approaching from the right (far lane). Sidewalk with ADA compliant tiles are present on all four corners but there is no corresponding crosswalk leading across Washington Blvd on the east and west legs. Without any crosswalk drivers may not be expecting pedestrians crossing at this location.

Washington Blvd @ Keystone Ave

- All way stop intersection
- Stop sign warning sign on eastbound approach
- Keystone Ave may have slightly compromised visibility of oncoming traffic due to trees near the intersection
- Eastbound and westbound stop signs have spinning reflective markers
- Continental crosswalks on all four legs

Keystone Ave is a standard all way stop intersection. Any sightline issues should be mitigated by the stop warning sign or spinning reflective markers. TEG did not feel stop signs were difficult to see on any of the approaches and saw no reason for operational issues due to geometry or sightlines. All cars at the intersection should be coming to a complete stop and once at the intersection it is not difficult to see drivers on the other three legs regardless of approach direction.

Washington Blvd @ Forest Ave

- 3-leg minor stop intersection (South leg stop)
- Ladder style crosswalk on south and east leg with pedestrian crossing sign in each direction for east leg
- Parks are located north and south of the intersection

Forest Ave is a standard 3-leg minor leg stop intersection where drivers on the south leg stop. Due to the proximity of the parks the pedestrian crossing with additional warning signs will help keep drivers aware of pedestrians at this location. The south leg appears to have adequate sightlines in both directions. Trees in the eastbound parkway may block some visibility of oncoming traffic, but in use TEG felt visibility was adequate to safely complete a turn at posted speeds.

Washington Blvd @ Park Ave

- Minor stop intersection (North/South legs stop)
- Park located in the southeast corner of the intersection
- Continental crosswalks on all four legs

Park Ave is a standard minor leg stop intersection where north and south traffic stops. There is a small park in the southeast corner of the intersection. Within the past few years there was a radar speed sign installed behind the crosswalk for eastbound traffic. There is an existing pedestrian crossing warning sign just east of the intersection. This sign appears to apply to the crosswalk at Franklin Ave. TEG felt the sign was unclear as to which crosswalk was being referred to – TEG recommends the Village confirm with their signing and striping plan to relocate this sign as needed.

Washington Blvd @ Franklin Ave

- 5-leg Signalized intersection (Park Dr is fifth leg; One-way southwest)
- Continental crosswalks on all 5 legs

Franklin Ave is a 5-leg signalized intersection. The fifth leg heads southwest and is one-way away from the intersection. It is unclear if the signal was warranted due to traffic volumes, elevated crashes, or as a form of traffic calming. The signal has been in place since at least 2010 based on review of historic imagery. The sidewalk is set back over 40' from the road southeast of the intersection due to the layout of the fifth leg. The south leg of the intersection does not appear to have any sight distance issues, but cars are stopped over 40' away from the east-west route. The unique geometry of this intersection may result in a higher risk for crashes involving drivers on the south leg.

Washington Blvd @ Ashland Ave

- Minor Stop intersection (North/South legs stop)
- Ladder style crosswalks on south, east, and west leg with pedestrian crossing warning signs for west leg
- Drivers on Ashland Ave must wait further away from the intersection than is standard

Ashland Ave is a minor leg stop where north and south traffic stops. Due to sidewalks north and south of Washington Blvd being offset ~25' drivers on the north and south leg need to stop over 25' from the intersection. This coupled with trees in the area reducing the visibility of oncoming traffic on Washington

Blvd. The sidewalks being offset so far back also reduces the visibility of pedestrians for drivers on Washington Blvd. The intersection is located directly between two signalized intersections and drivers may not be expecting the minor intersection with Ashland Ave.

Washington Blvd @ Lathrop Ave

- Signalized intersection
- Lathrop's ADT is 5,800 (Compared to IDOT's counted 7,700)
- Shared bike line markings on north and south legs
- Ladder style crosswalk on the west leg and standard crosswalks on the other three legs.
- East leg is not under Village jurisdiction

Lathrop Ave is a signalized intersection and is the highest volume intersection in the corridor. The east leg of the intersection is not in Village jurisdiction so all improvements will be targeted at the Village legs. There are crosswalks on all four legs, TEG noted the crosswalks were not consistent; there was one ladder style on the west leg and standard transverse striping on the other three legs. There are no apparent sight distance issues at the intersection. The parking lane striping on the west leg of the intersection may appear to be a second lane to drivers unfamiliar with the area. This is supported by the "No Driving in Parking Lane" sign. Narrowing the west leg may help mitigate these issues.

Volume & Speed Study Assessment

Volumes were gathered for the peak hour times of three intersections throughout the corridor. The intersections were chosen to get a good representation of where drivers enter and exit the road. The three intersections chosen were the two primary intersections (Thatcher Ave and Lathrop Ave) and the third counted intersection was Franklin Ave at Washington Blvd which was chosen due to the signalization and five leg geometry. Please refer to Appendix C.01: Volumes & Level of Service for volume data – AM and Appendix C.02: Volumes & Level of Service for volume data – PM.

Based on an analysis of the Volumes during both AM and PM peak hour TEG came to several conclusions:

- Traffic volumes are highest at the corridor termini at Thatcher Ave and Lathrop Ave
- There is an imbalance between EB and WB traffic volumes with eastbound traffic being greater in both the AM and PM peak hours.
 - o Volumes are more balanced in the PM hour potentially from traffic coming from Des Plaines Ave/I-290 heading west into the Village to get home. Eastbound traffic is still the primary direction drivers are heading.
- For drivers traveling east or west there are a limited number of bridge crossings over the Des Plaines River making Washington Blvd appealing to drivers looking to avoid busier streets like North Ave or Madison Ave.
 - o backups on Madison Ave (as TEG field engineers observed during both peak hours) is likely causing traffic to spill over to Washington Blvd since it is the next closest road with a river crossing.

Speed data was taken at the midway point of the corridor near the railroad overpass. This location was deliberately analyzed away from stopping intersections to ensure that the speed of drivers in the corridor was not impacted by traffic stopping/slowing to turn onto intersections. In traffic engineering the 85th percentile is expected to be the speed limit of a road. Seeing 85th percentile speeds significantly above the

speed limit could indicate that road conditions do not reflect the posted speed limit. The average 85th percentile speed along Washington Blvd across all time periods was 38 mph. This was 13 mph above the posted speed limit. Based on these speeds TEG would recommend making changes to either geometry or operating conditions to force drivers to travel at safer speeds. At the AM and PM peak hour times the 85th percentile speed was 15 mph above the posted limit. This indicates that even during the peak periods traffic conditions do not slow drivers down. The high speeds coupled with higher volumes at the peak hour make the road much more dangerous for pedestrians, bicyclists and cross-street vehicular traffic. See Appendix F.01: Speed Data for a full breakdown of driver speeds.

85th percentile speeds 15 mph over the posted limit indicate a severe disparity between driver perception of the road and Village perception. We recommend taking steps to mitigate speeding along this route by installing some form of traffic calming.

Crash Analysis

Crashes through the corridor were analyzed over a six-year period from 2016-2021. Due to the higher speeds along the route, there is a higher chance of severe injury in the case a crash does happen. A lack of crashes does not necessarily signify a safe corridor and due to the parks located between Forest Ave and Park Ave (where speed data was gathered) there is a high likelihood for pedestrian interaction with a vehicle at a crosswalk or a mid-block crossing.

Segment Crashes

There was a single fixed object crash on Washington Blvd in the analysis period. It was a fixed object crash on the segment between Forest Ave and Park Ave and did not have any injuries. There were no reported crashes in any of the other segments.

Intersection Crashes

There were 101 total crashes at intersections along Washington Blvd including 1 A-injury, 19 B-injuries, and 10 C-injuries.

Intersections included in this analysis are as follows: Thatcher Ave, Gale Ave, Keystone Ave, Forest Ave, Park Ave, Franklin Ave, Ashland Ave, and Lathrop Ave

Overall Crash Breakdown (All Intersections):

56 Angle: 1 A-injury, 10 B-injuries, 4 C-injuries

20 Rear End: 6 B-injuries, 3 C-injuries

7 Other Object: 2 B-injuries

7 Sideswipe Same Direction

4 Fixed Object: 1 C-injury

3 Pedalcyclist: 1 B-injury, 2 C-injuries

2 Turning Left

1 Head On

1 Animal

Angle crashes are by far the most prominent crash type at the intersections and have a high rate of injury. This is typically seen in cases where drivers misjudge oncoming traffic speed or make risky decisions due to a lack of a gap in traffic.

The intersections between Washington Blvd and Forest Ave, Park Ave, and Franklin Ave had very low crash rates at 2, 3, and 7 crashes, respectively. At Forest Ave and Park Ave no conclusions or patterns could be gathered based on such small numbers of crashes. TEG noted that at both locations there was an injury crash (1 B-injury and 1 C-injury). At Franklin Ave there were 7 crashes including one C-injury and 3 B-injuries. Four of the seven crashes involved either rear end or sideswipe same direction crashes and accounted for two B-injuries and one C-injury. The remaining 3 crashes are all different types and not indicative of a pattern. It is unclear why these intersections have such low crash rates compared to other intersections in the corridor. Perhaps it is due to lower volumes using all three streets, but despite the lack of crashes in this area, it remains true that drivers are exceeding the appropriate speed limits in this corridor. In the event of any crashes occurring, there is a significantly greater chance of severe injuries. This is observed that 50% out of 12 total crashes at the three intersections resulted in an injury.

The remaining five intersections will be analyzed in greater detail due to their higher crash volumes to determine if there are any patterns. Crash patterns are indicative of an underlying problem, either geometric or operational, that can be addressed through new safety measures or changing how the intersection operates.

Thatcher Ave Total: 28 Crashes 1 A-injury, 4 B-injuries, 3 C-injuries

17 Angle: 1 A-injury, 2 B-injuries, 1 C-injury

3 Rear End: 1 B-injury, 1 C-injury

4 Sideswipe Same Direction

2 Pedalcyclist: 1 B-injury, 1 C-injuries

1 Fixed Object

1 Head On

Thatcher Ave at Washington Blvd had by far the most crashes at 28 as well as the most frequent and severe injuries. Due to high volumes and all-way stop control the intersection may have issues handling the daily traffic volumes at peak hours. Delays along the intersection may result in impatient drivers not properly stopping at the intersection. Similar intersections along Thatcher Ave at Lake St and Chicago Ave are both signalized rather than all-way stop.

The non-angle crashes align with typical intersection related crashes primarily consisting of sideswipe same direction and rear end crashes (7). The number of angle crashes is atypical for an all way stop intersection. For an angle crash to occur typically one driver needs to not obey the stop sign. There may be cases where two stopped vehicles both move forward at the same time, but drivers can typically avoid these collisions and the four injuries caused by angle crashes suggests drivers were colliding at a higher rate of speed.

The primary directions of vehicles involved in collisions was between southbound and eastbound drivers (6) and northbound and westbound drivers (8). The collisions appear to primarily be occurring due to

drivers heading eastbound and westbound not stopping or not being seen by drivers headed north and southbound. Based on the existing configuration with drivers on the west leg having two lanes per direction this can be confusing to eastbound approaching drivers not realizing the right lane ends past the intersection. Similarly having two westbound lanes on the west leg encourages drivers to use the parking lane to continue straight onto Washington. Maintaining a consistent cross section up to and past the intersection or providing updated pavement marking/signage would likely help reduce driver confusion and improve safety.

There are Stop Ahead Warning signs on all approaches and there were no sight distance issues observed at the intersection. Since 2019 there has been only one angle crash (*data in 2020 and 2021 were significantly skewed by traffic reductions on all roads during the COVID-19 pandemic*), but a lack of new angle crashes suggests the problem was somewhat resolved with the lower traffic volumes. With traffic returning to pre-pandemic levels, it is possible that there will be a resurgence of angle crashes at this intersection.

A signal warrant was performed for this intersection but not met due to traffic volumes falling below the minimum threshold. This number of angle crashes is uncommon at all way stop intersections and suggests safety measures should be taken. TEG would suggest installing flashers on the Stop Ahead Warning signs to draw further attention to the all-way stop condition. This location is being recommended for a raised intersection due to the number of angle crashes and speed issues in the area.

Gale Ave Total: 14 Crashes 3 B-injuries, 3 C-injuries

11 Angle: 2 B-injuries, 2 C-injuries

1 Rear End: 1 B-injury

1 Pedal cyclist: 1 C-injury

1 Animal

Gale Ave is a minor leg stop intersection where the north and south legs stop. The high rate of angle crashes indicates there is an underlying problem at the intersection. At minor leg stop intersections a high rate of angle crashes is typically caused by drivers moving at a higher rate of speed than the waiting driver expects, drivers feeling pressure to fit in smaller gaps due to high road volumes, and/or sight distance issues for waiting drivers.

Angle crashes accounted for almost 80% of the total crashes at the intersection, which is higher than expected. TEG looked at the directional breakdown of drivers and discovered that drivers from the south and north leg were being struck at similar rates. This indicated that issues at the intersection effected both minor legs equally.

Looking at the intersection from the perspective of a driver on the minor leg, TEG observed that southbound drivers had issues seeing eastbound traffic while sitting at the stop sign and northbound had similar sight distance issues with westbound traffic. Both directions have compromised sightlines due to vegetation blocking visibility. To resolve crash issues TEG recommends removing the vegetation and trees blocking visibility. Other improvements will be implemented at nearby intersections along Washington Blvd that will also improve conditions at this intersection.

Keystone Ave Total: 14 Crashes 2 B-injuries, 1 C-injury

11 Angle: 2 B-injuries

3 Rear End: 1 C-injury

Keystone Ave is an all way stop similar to Thatcher Ave, but with far lower north-south volumes (500 ADT along Keystone Ave per IDOTs 2022 data). The high rate of angle crashes at the intersection is unexpected since all drivers should be coming to a complete stop. The two B-injury angle crashes at this location suggest that drivers are colliding at high rates of speed. There is a Stop Ahead Warning sign placed in the eastbound direction with no matching sign for westbound.

The directional breakdown of angle crashes is the same as at both Thatcher Ave and Gale Ave. TEG has not identified any geometric reasons that would be causing elevated angle crashes. It is possible vehicles approaching from east-west may have difficulty seeing drivers waiting on Keystone, but the stop sign is clearly visible in all directions and is not easily overlooked by drivers. It seems likely that the high speeds in the corridor coincide with a large number of drivers 'rolling' stop signs or not obeying them at all.

Based on the low minor street volumes a signal would not be appropriate, but changes should be made to mitigate both the speed and the lack of driver awareness as they approach intersections. TEG would suggest installing a Stop Ahead Warning sign in both directions, possibly with flashers or flashing LED border. TEG also suggests installing a raised intersection to force drivers to slow down. Placement of multiple raised intersections through the corridor may help to avoid a situation where drivers speed after passing the raised intersection.

Ashland Ave Total: 21 Crashes 4 B-injuries, 1 C-injury

13 Angle: 3 B-injuries, 1 C-injury

4 Rear End: 1 B-injury

2 Other Object

1 Fixed Object

1 Turning Left

Ashland Ave is also seeing elevated rates of angle crashes with multiple injuries for a minor leg stop intersection. Northbound vs westbound is the primary direction impacted (8 of the 13 total angle crashes). The location of the intersection between two signalized intersections may surprise drivers on Washington Blvd who are not expecting drivers to be entering in front of them before they reach the signal at Franklin Ave. The combination of the two signalized intersections with a minor stop-controlled intersection in between is made even worse by the location of stop bars for drivers waiting to turn from Ashland Ave. Both stop bars are set 40' back from the edge of the traveled way due to the location of the sidewalk crossing. This forces drivers to cover more distance before executing their turn than is typical at standard minor stop locations. The large offset makes drivers on Ashland Ave less visible to drivers on Washington Blvd and vice versa.

To improve visibility at the intersection, TEG recommends realigning the sidewalk to bring it closer to the intersection. This will reduce the offset of the stop bar and allow drivers a better view of oncoming traffic. Similar to the rest of the intersections, reducing driver speeds along Washington Blvd would likely decrease

angle crashes by giving waiting drivers more time to react to oncoming traffic. This would also reduce the severity of crashes due to drivers moving at lower speeds at the time of collision.

Lathrop Ave Total: 12 Crashes 2 B-injuries

5 Rear End: 1 B-injury

2 Angle: 1 B-injury

2 Other Object

2 Sideswipe Same Direction

1 Turning Left

Lathrop Ave is a signalized intersection and is the end of the Village owned portion of Washington Blvd. Based on the crash breakdown There are no recurring crash patterns or unexpected crash types. The much lower rate of angle crashes is more in line with what a signalized intersection might experience under normal traffic conditions.

Over the six-year period there were an average of two crashes per year and two injuries in the entire analysis period. Although there is not an existing crash problem, TEG still recommends geometric and operational improvements at the intersection in line with other improvements in the corridor.

Crash Recommendations

It is clear that along with several potential geometric issues, the primary factor causing elevated rates of angle crashes throughout the corridor is the high vehicle speeds along Washington Blvd. Speeding increases the potential to have severe crashes even when both drivers are paying attention. The large number of angle crashes at both of the all-way stop intersections clearly indicates that either drivers are rolling stop signs or not stopping at all even though stop signs are extremely visible through the corridor.

Conditions along the road will need to change to reduce the average speed of drivers. TEG suggests implementing countermeasures from our Traffic Calming Toolbox throughout the corridor to address the high rates of speed. In areas lacking sight distance it may be appropriate for the Village to perform a full sight distance assessment and make modifications as needed.

Survey Response Analysis & Evaluation

As part of the Village-wide survey TEG asked specific questions to gauge residents' feelings about Washington Blvd. These questions have been analyzed along with answers to several other survey questions to create a profile of resident opinions based on their proximity and usage of the road. These responses will be considered in any future improvements. TEG recommendations will not solely be determined based on resident preferences, but all opinions will be given weight when deciding on the optimal solutions. To create a safer road, drastic change will need to be made to effectively alter driver behavior.

Introduction

TEG asked seven questions specifically targeted towards the Washington Blvd corridor. The first question was a screening question to determine how often respondents used the road or if they lived on the road. More weight was given to the responses of residents who lived on the road or used the road often. Any

respondent who said they did not use Washington Blvd in the first question was not presented the following six questions. The frequency of roadway use was also incorporated into analysis of the remaining six questions. Analysis begins at question 2 because usage of the roadway is only applicable when paired with the follow-up questions.

Question 2 Analysis

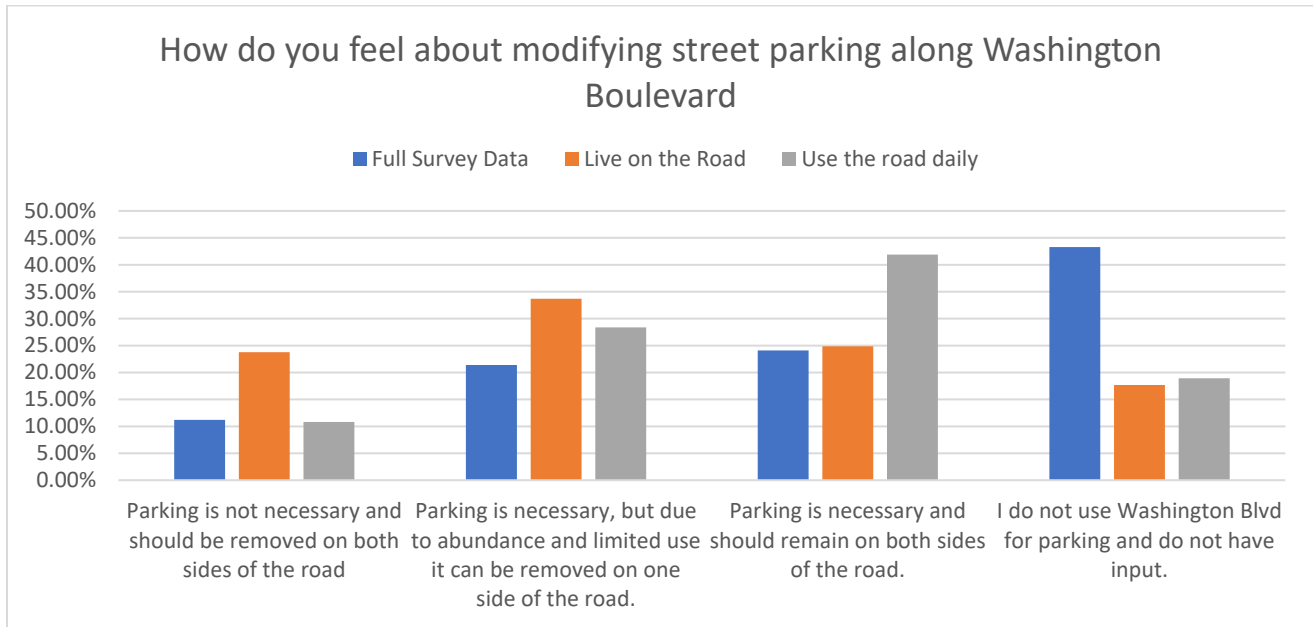


Figure 5. How do you feel about modifying street parking along Washington Boulevard to allow for traffic calming/bike accommodations to be implemented? (Percent Breakdown)

In analyzing data from the second Washington Blvd question, TEG noted that for the overall response data most respondents did not use parking on Washington Blvd and had no input (43%). Of the group who did have input on parking most of those people believe parking is required (45% combined responses that parking is necessary on one or both sides). Of the two groups who say parking is necessary, over half of them feel parking is required on both sides of the road.

The purpose of the question was to follow up from the 2019 parking study that found parking along Washington Blvd was less than 50% utilized from Thatcher Ave to Park Ave, and in some cases was used less than 15%. Unused parking lanes effectively become another lane for drivers trying to bypass traffic backups and creates more danger for cyclists who might want to ride in the open parking lane to avoid taking a full lane of traffic. The surrounding residential streets have less parking overall, but TEG believes the small number of drivers currently parking on Washington Blvd will be able to find nearby spots without issue. When the parking lane is completely empty drivers can illegally use the road as if each direction is a 20' lane which further promotes speeding and unsafe driving.

Looking at the bars representing responses from residents living on Washington Blvd or using it daily it becomes apparent that those residents most effected want to keep at least some parking on Washington Blvd. The figure shows that the percentage of drivers wanting to keep parking is much higher in both cases where drivers regularly use Washington Blvd, but residents who live on Washington Blvd are more open

to removing parking on one or both sides. Knowing this, TEG will try to maintain parking on one side in the recommended alternatives along Washington Blvd. It is likely some parking will be removed to avoid providing an overabundance of parking like in the existing conditions, and to make room for more effective traffic calming improvements.

Question 3 Analysis

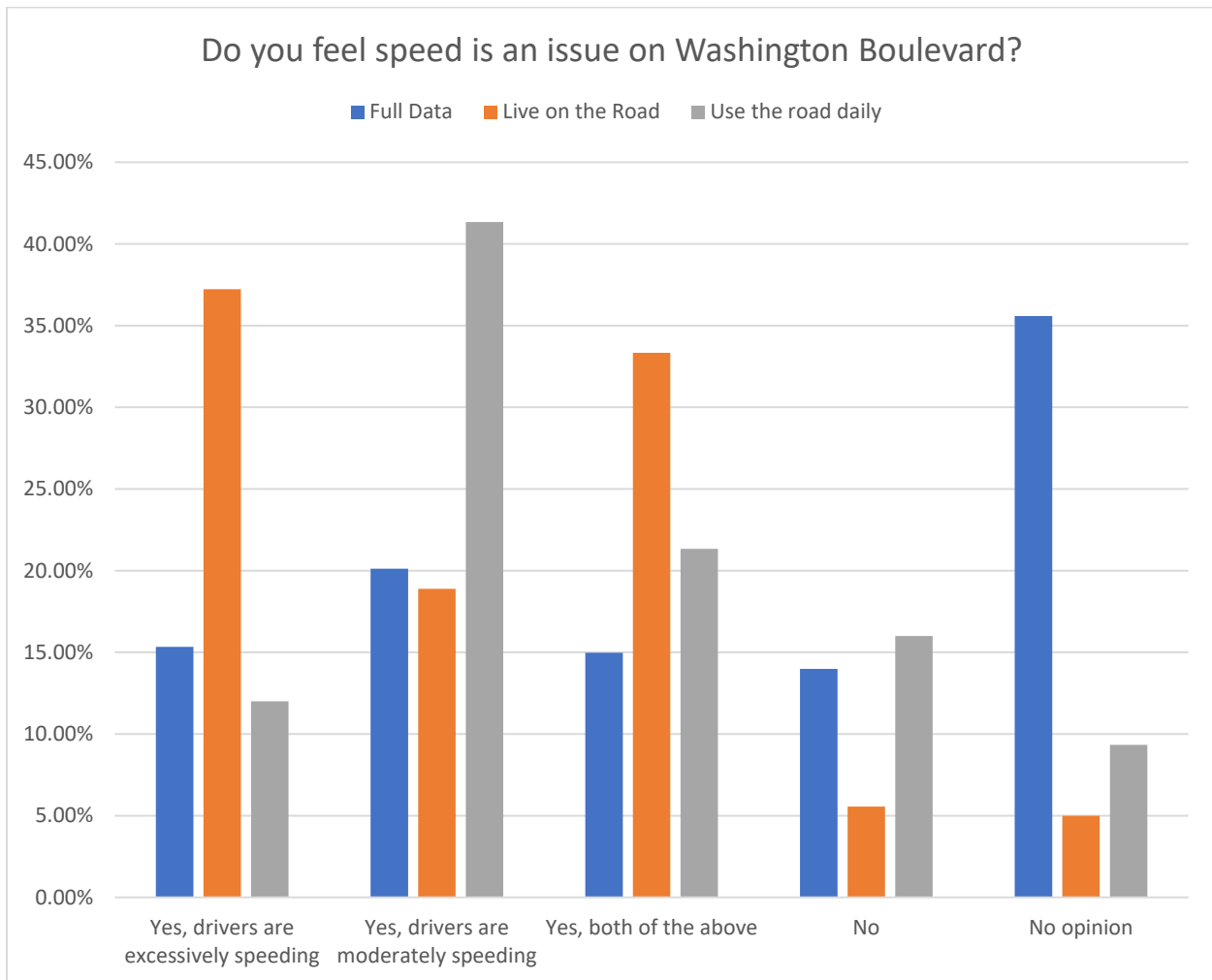


Figure 6. Do you feel speed is an issue on Washington Boulevard? (Percent Breakdown)

When answering this question 50% of respondents (or 75% of those who offered an opinion) felt speed was an issue (moderate and/or excessive) on Washington Blvd. The overwhelming majority of road users feel speeding is an issue or have no opinion on it.

Those residents with more experience with the road feel more strongly that speeding is a significant issue along Washington Blvd. In figure 6 it is apparent that residents using the road daily are more likely to believe drivers are either moderately or excessively speeding compared to the full data set. The residents who live on the road followed a similar trend with the exception that these respondents thought drivers were excessively speeding as opposed to moderately speeding. Residents who live along Washington Blvd

responded “No” or “No opinion” 10% of the time compared to the overall data set where 50% of respondents had no opinion on speeding issues.

It was seen that the 85th percentile speed during the peak hour time periods was 15 mph faster than the posted limit. The survey response data by those familiar with the roadway is supported by the speed data which shows that speeding is prevalent in the area.

Question 4 Analysis

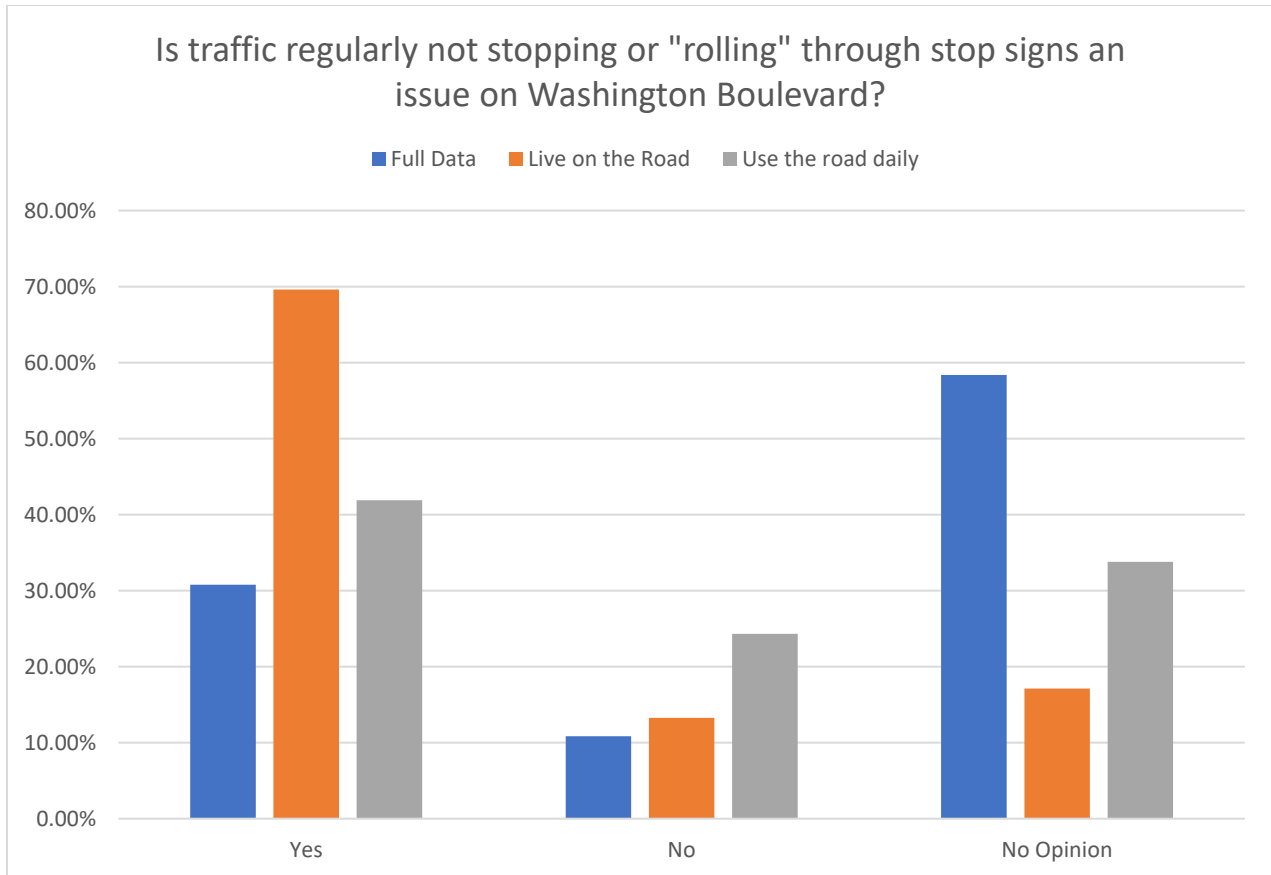


Figure 7. Is traffic regularly not stopping or "rolling" through stop signs an issue on Washington Boulevard? (Percent Breakdown)

When asked about stopping along Washington, 30% of all respondents felt drivers were either not stopping or rolling through stop signs. This is alarming because this perceived behavior might discourage pedestrians and cyclists from using the road or the nearby parks for safety reasons. 11% of respondents did not feel lack of stopping was an issue, with over 50% of respondents having no opinion. This is expected because drivers who don't often use the road have less of a chance to observe this driver behavior compared to drivers regularly using Washington Blvd.

Respondents who live on the road are the most likely to observe non-stopping behavior and make note of it, especially if they live in a household with kids. Based on ~70% of these respondents saying traffic is regularly not stopping, it is clear that there is a problem. TEG felt that the fact that daily road users notice non-stopping at a much lower rate than those who live on the road indicates that either daily road users are part of the problem or they simply have less time to observe improper behavior either due to only

briefly using Washington Blvd or using intersections along Washington Blvd where not stopping isn't as common. The high rate of angle crashes at all-way stop intersections on Washington Blvd caused TEG to believe there is a large number of drivers disregarding stop signs.

The open-ended response section allowed drivers to specify which intersections they believed cars didn't stop the most. TEG only included responses data for intersections along Washington Blvd.

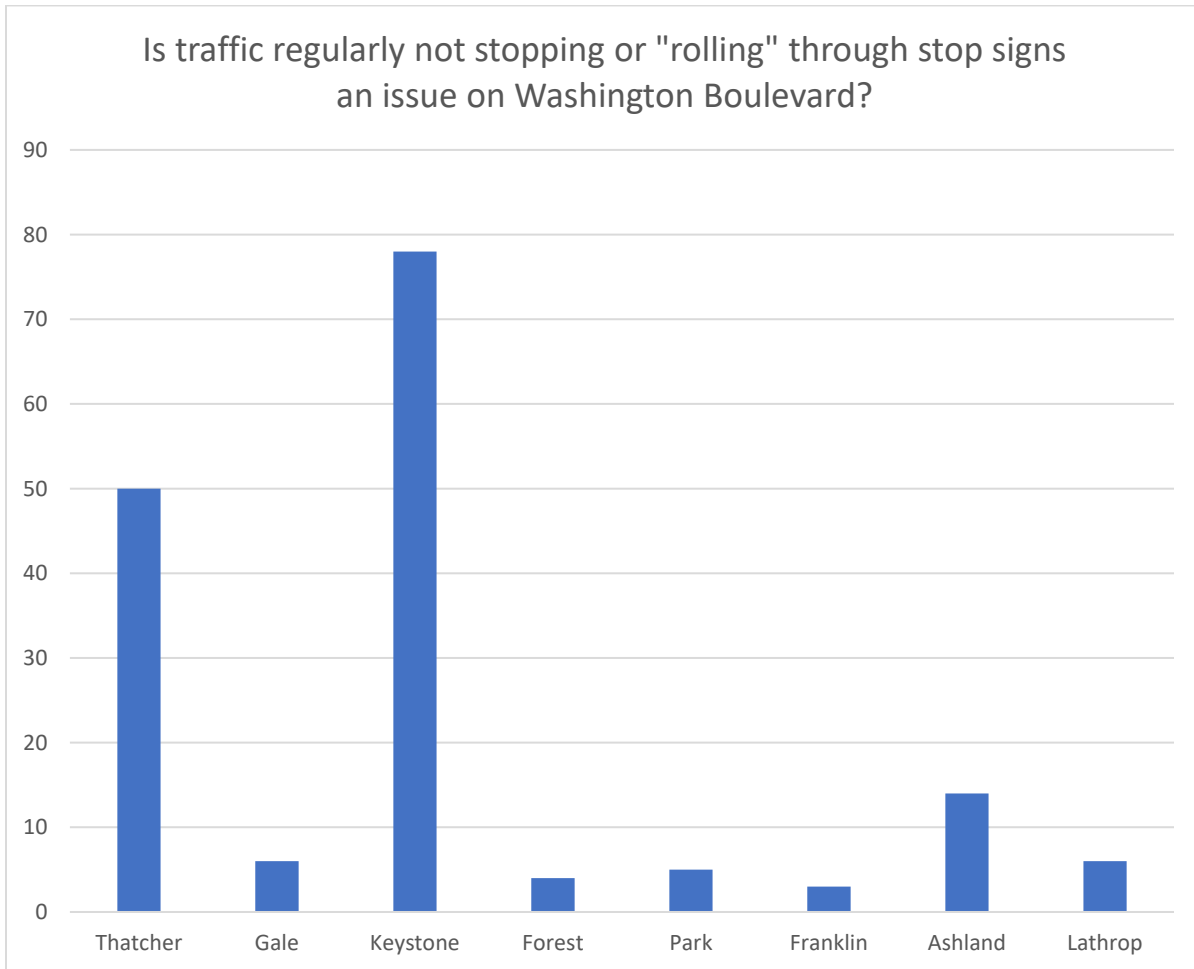


Figure 8. Open ended response data in response to the prior question.

The survey results clearly show that residents believe there are issues at both Thatcher Ave and Keystone Ave. Crash data supports this and indicates that more severe traffic calming may need to be considered at these two intersections.

The moderate spike in residents saying drivers were rolling the stop signs on Ashland Ave (14) may be an effect of the setback geometry of the minor legs. Drivers approaching Washington Blvd from Ashland may go past the stop bar while stopping to get a better view of oncoming traffic. Currently drivers are stopped over 40' away from Washington Blvd which is more than double the setback of intersections in the western half of the corridor. Geometric modifications would improve functionality and driver behavior without requiring further traffic calming.

Question 5, 6, 7 Analysis

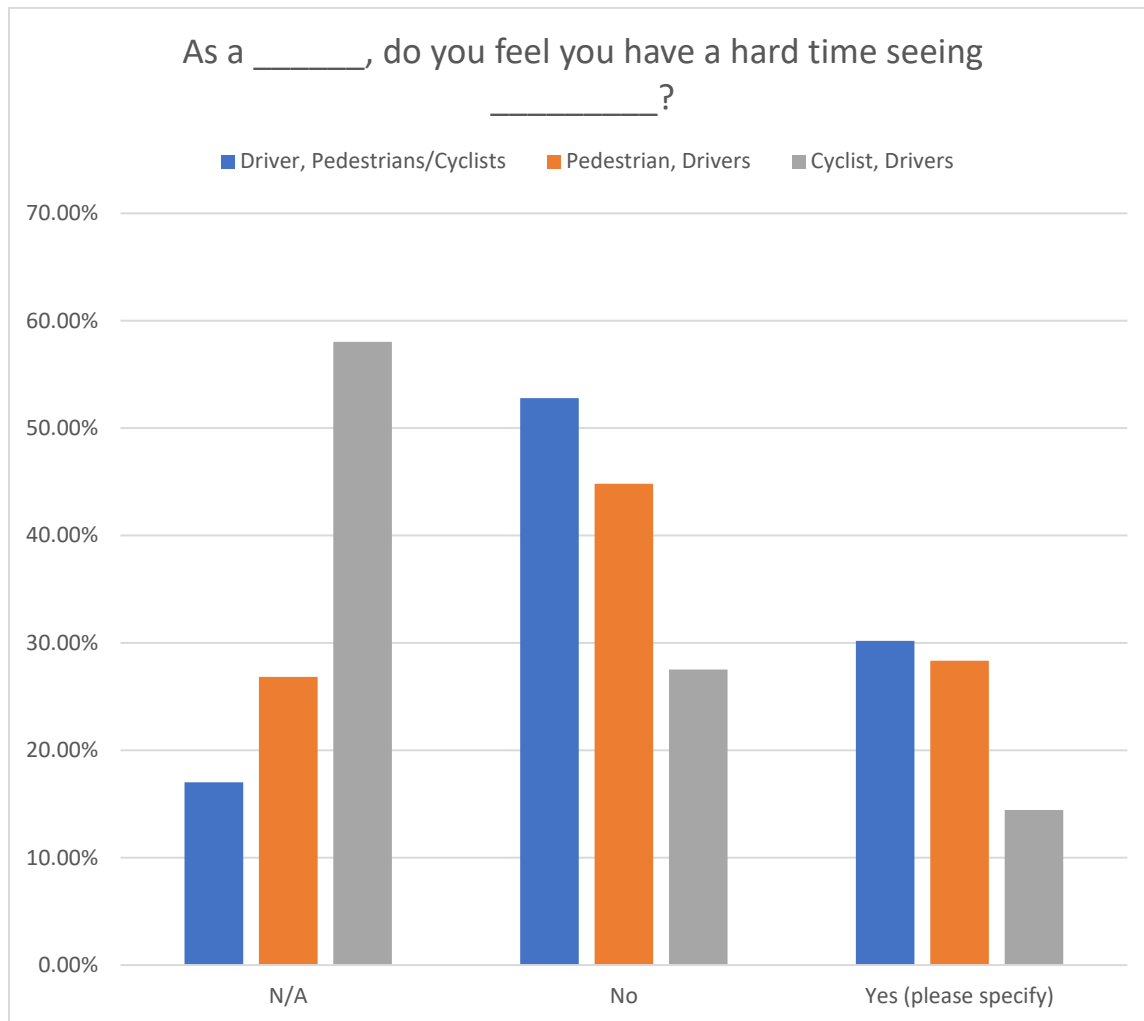


Figure 9. Drivers, Pedestrians, and Cyclists response regarding being seen along Washington Blvd.

The final three questions seek to understand the average experience using Washington Blvd from the perspective of a driver seeing pedestrians and cyclists, a pedestrian seeing oncoming vehicles, and a cyclist seeing oncoming vehicles. All three questions had an open response section to try and narrow down the specific intersections drivers and pedestrians feel most at risk.

In the case of pedestrians and drivers roughly 30% of both groups felt they had a hard time being seen or seeing the other. To get a better idea if pedestrians and drivers have issues on the same streets we looked at the open response data and compared the two questions. Cyclists were not used for this comparison due to the much smaller data set of open ended responses to work with.

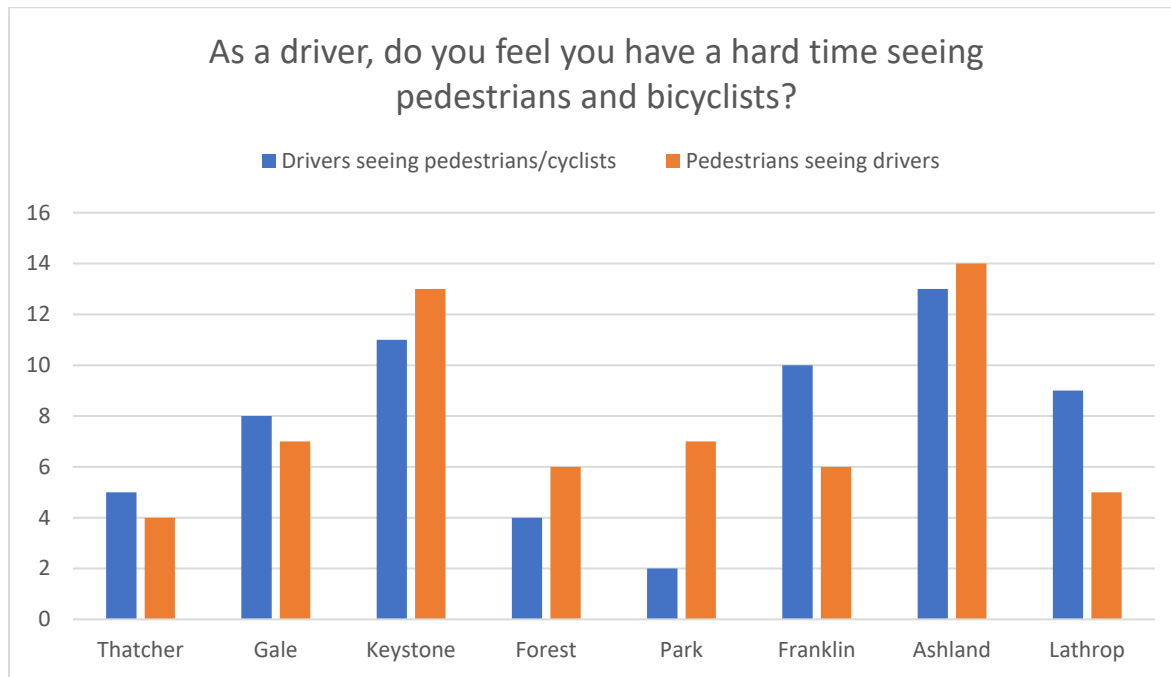


Figure 10. Open ended responses by Drivers and Pedestrians from the previous question.

Based on the side-by-side charts it is clear there is an overlap between pedestrian and driver perception of the areas where sightlines may be compromised. For both open-ended response sections 62 residents left feedback. While the overall distributions may be different the clear pattern is that Keystone and Ashland are perceived as intersections where sight distances are compromised.

At Ashland Ave, this was what we would expect to see based on the extreme setback of the sidewalk from the road. This pattern is more pronounced looking at the drivers responses where both Franklin Ave and Lathrop Ave also had elevated response rates. This was likely due to the odd sidewalk setback continuing at both nearby intersections. From the perspective of pedestrians, the two neighboring signalized intersections may provide a greater sense of safety as they can utilize a marked crosswalk during a pedestrian walk phase. Thus, those roads were not considered as dangerous by pedestrians responding.

The responses claiming Keystone has compromised sightlines were surprising for TEG. Knowing that drivers often roll through the stop at the intersection may explain some of the responses, but TEG did not feel the trees and landscaping around the intersection would impact drivers' ability to spot pedestrians approaching to that extent. This is especially true if a driver came to a complete stop and assessed their surroundings before continuing forward.

The remaining responses were spread across the corridor. The next most mentioned intersection was at Gale Ave with 15 respondents mentioning concerns on Gale between pedestrian and driver responses. This makes sense based on the density of trees and landscaping around the intersection. The fact that drivers on Washington Blvd do not need to stop makes it harder for them to register a pedestrian crossing or waiting to cross amongst the other visual clutter. Currently there is sidewalk crossing Washington Blvd on the east and west legs with no crosswalk to indicate to drivers that pedestrians may be crossing in the area.

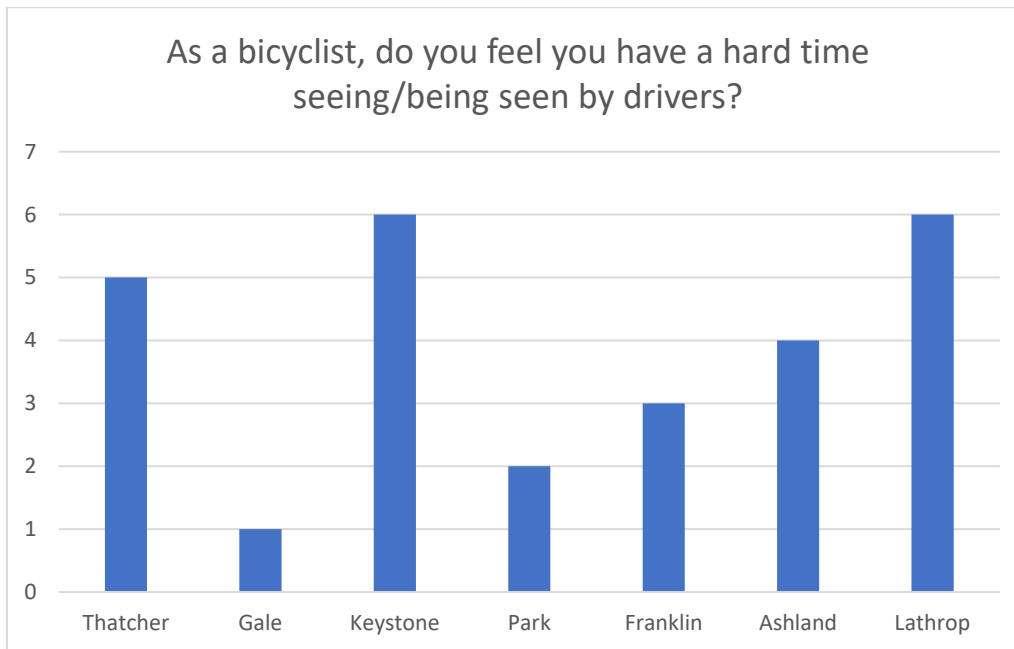


Figure 11. Open ended responses by Cyclists to the previous question.

Cyclists had a much smaller pool of open-ended responses (27) due to less residents regularly cycling on Washington Blvd. Their responses may be from the perspective of a rider entering Washington Blvd from a side street or a rider navigating Washington Blvd. Clearly, the two all-way stop intersections of Thatcher Ave and Keystone Ave are concerning to cyclists. This may correspond with the perception that drivers regularly do not stop at those two intersections. More cyclists felt they couldn't be seen as we head east through the intersections of Park Ave, Franklin Ave, Ashland Ave, and Lathrop Ave. TEG speculates that this is due to the unique geometry in that portion of the corridor and cyclists feeling less safe/seen at signalized intersections generally. Providing protected bike facilities would be the best way to give bicyclists a designated place on the road where drivers can expect cyclists.

In all situations, the majority of residents did not feel they had any issues being seen or seeing oncoming traffic. Breaking data down by how often each respondent uses the road creates a similar distribution as above with the primary difference being a higher percentage of residents feel they are having a hard time being seen the more often they use the road. Summary of data and individual tables can be seen in Appendix B.01: Survey Response Graphs & Data. The primary value in resident responses was to gather which intersections residents feel are most dangerous. This allows us to focus our efforts and suggest changes that will positively impact all road users.

Recommendations/Alternatives

Washington Blvd had all segments scored using the Traffic Calming Toolbox (TCT) designed for the Village as part of this project. Please refer to Appendix F.04: Traffic Calming Toolbox Scoring Sheets for individual scores. Every segment fell into the Level 3 category of improvements, meaning the roadway is eligible for improvements up to Level 3 of the improvement matrix (See below).

Available Traffic Calming Measures	Primary Issue Addressed		
	Speed	Volume	Pedestrian Safety
Level 1 - No Traffic Flow Changes (25-39 points)			
Targeted Speed Enforcement	X		
Speed Radar Trailer	X		
Speed Feedback Sign	X		
Centerline/Edgeline Markings	X		
Updated Signage (New/Larger/Refreshed)	X		X
Speed Limit Signage	X		
Flashing Signs	X		X
Pavement Legend	X		X
High Visibility Crosswalks			X
Educations/Community Outreach	X		X
Level 2 - Some Traffic Flow Changes (40-59 points)			
Sign Turn Restrictions/Turn Movement Restrictions		X	
On-street Parking Strategies	X		
Parking Lane Markings	X		
Textured Pavement	X		
Rumble Strip	X		
Rapid Rectangular Flashing Beacon			X
Left-turn Improvements			X
Level 3 - Significant Traffic Flow Changes (60-79 points)			
Curb Extensions	X		X
Mid-Block Chokers	X		X
Center Island Narrowing/Pedestrian Refuge			X
Stop Signage		X	
Traffic Circle	X	X	
Roundabout	X	X	
Realigned Intersection	X	X	
Speed Hump/Speed Cushion	X	X	
Speed Table/Raised intersections	X	X	

Table 5. Traffic Calming Toolbox Levels of Improvement.

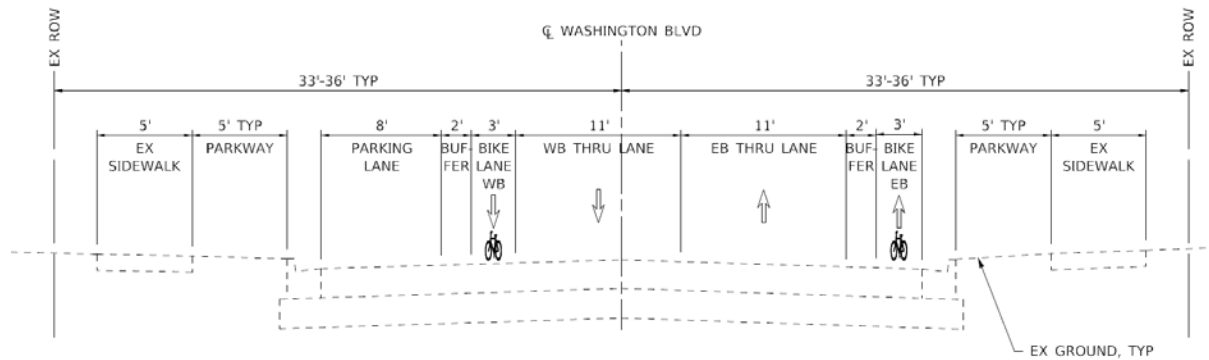
Since the corridor is a half mile there are multiple segments with changing characteristics and roadside conditions throughout. Analysis and scoring were done on the segments between each intersection to verify the tier of improvements available at each location. All segments within Washington Blvd had a score of between 65-75 which fell into the tier 3 improvement category.

A typical cross section of the road where parking is removed on one or both sides and protected bike lane(s) are installed would be the preferred option from TEG's perspective. This would allow more room for additional traffic calming features and would make the roadway much more accommodating for bicyclists who are at risk trying to share lanes with cars going 15 mph over the speed limit. At the Washington Blvd bridge there is a road diet project that is reducing the four-lane cross section down to two lanes with a protected bike path. If possible this cross section should be tied into any improvements along Washington Blvd.

Based on conversations with Village staff, as well as survey responses, TEG understands that removing parking will be unpopular with some residents in the area. TEG plans to focus on maintaining parking along one side of the road while eliminating parking on the opposite side to make room for an on-street bike lane. As mentioned previously, parking along the corridor was at 50% or less utilization in the parking and commuter study previously done by the Village. This indicates that while residents feel parking is necessary there is clearly an overabundance in the corridor that may be negatively impacting the roadway. By consolidating parking to one side of the road TEG would like to repurpose the existing southern parking lane for bike facilities while increasing the utilization of the remaining parking.

Alternative 1 (Preferred)

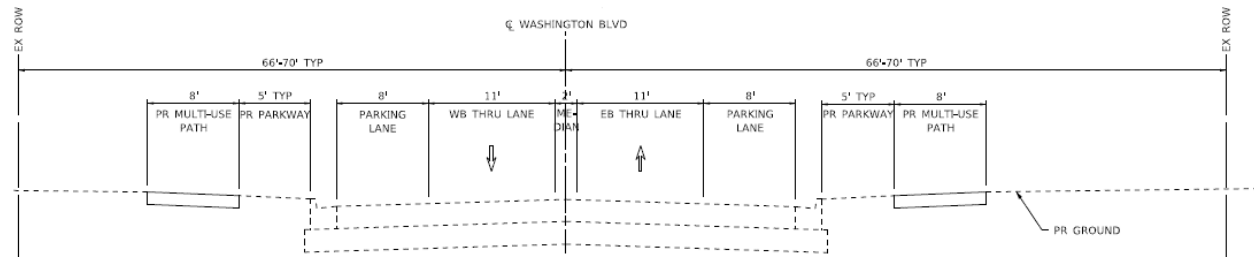
All recommendations discussed above have been compiled and drafted into a proposed exhibit for Washington Blvd and can be seen in Appendix F.05: Washinton Blvd Exhibits. Within the exhibits TEG used the preferred design and cross section as detailed above. TEG is proposing an alternative roadway cross section throughout the corridor. We have developed two new typical sections, one for the east half and one for the west half with the transition point at Park Ave. The western cross section maintains all parking along the north side of Washington Blvd, narrows the lanes to 11' in each direction, and provides a 3' bike lane with 2' buffer on the north and south side of the street (See figure 12 below). The eastern cross section will keep the current lane configuration from Park Ave to Lathrop Ave, but lanes will be reduced to 11' widths and a two-foot striped median will be installed (See figure 13 below). Throughout the eastern section, cyclists will be provided 8' multi-use paths north and south of Washington Blvd. TEG updated our capacity model to function without right-turn slip lanes at the intersections and found only minor changes in the overall capacity of the road (See Appendix C.03: Alternative Volumes & Level of Service – AM and Appendix C.04: Alternative Volumes & Level of Service – PM).



WESTERN ALTERNATIVE 1

THATCHER AVE - PARK AVE
(FACING EAST)

Figure 12. Proposed Western Typical Section Washington Blvd.



EASTERN ALTERNATIVE 1

PARK AVE - LATHROP AVE
(FACING EAST)

Figure 13. Proposed Eastern Typical Section Washington Blvd.

Speeding is considered an issue throughout the entire project; intersection or segment specific concerns and countermeasures are detailed below:

Thatcher Ave Intersection:

- Install Sign Mounted 8" Flashing Beacon on stop warning signs along Thatcher Ave.
- Install a raised intersection.
- Install curb extensions on the northeast corner.
- Provide dotted lines showing cyclists path from the west leg to the east leg to stay within bike lanes.
- Redesign Existing crosswalk to be a raised crosswalk.

The intersection with Thatcher Ave has an elevated angle crash rate unexpected at an all way stop intersection. Speed is likely a contributing factor increasing the severity of all crash types. Residents have stated that drivers often do not stop at the stop signs at this intersection. While TEG did not feel the stop signs on any approach were hard to see it is possible that speeding drivers don't notice the stop warning signs prior to the intersection and also miss the stop signs at the intersection. To combat this 8" flashing

beacons should be placed on the Stop Ahead Warning signs or the signs should be replaced with flashing LED bordered warning signs

TEG also proposes to install a raised intersection. This physical obstacle forces drivers to slow down and creates more awareness at the intersection. Since this intersection is a gateway to the rest of the Village and speeding appears to be common TEG felt aggressive countermeasures were necessary at this location.

The east leg of the intersection should be restriped using the new proposed cross section. This will provide facilities for cyclists that can tie into the new cross section west of Thatcher Ave.

Gale Ave:

- Install curb extensions along the north side of the road.
- Provide dotted lines showing cyclists path from the west leg to the east leg to stay within bike lanes.
- Provide striped crosswalks across Washington Blvd.

Gale Ave suffers from the same elevated angle crash rate as Thatcher Ave including one pedalcyclist crash. Since Washington Blvd is not stopping at this intersection TEG theorizes that sight distance issues and speeding are the primary causes of the angle crashes. Residents verified this in survey response data. To increase visibility while decreasing visual clutter at the intersection parking on the south side of the road should be removed in favor of bike lanes. Curb extensions should be provided along the north side of Washington Blvd to bring pedestrians closer to oncoming traffic. Parking is available on Gale Ave and the north side of Washington Blvd for residents who can no longer park on the south side.

Crosswalks are currently striped on the north and south legs at Gale Ave. To create more visibility for the intersection and to connect existing sidewalks, crosswalks should be striped on the east and west legs. Pedestrian warning signs should be installed with the crosswalks for consistency with other parts of the corridor.

Keystone Ave:

- Install a raised intersection.
- Install curb extensions along the north side of the road.
- Provide dotted lines showing cyclists' path from the west leg to the east leg to stay within bike lanes.
- Redesign Existing crosswalks to be raised crosswalks.

Keystone Ave saw the same elevated angle crash rate as both Thatcher Ave and Gale Ave. Since this location is an all way stop similar improvements were recommended to those at Thatcher Ave. Sight distance seems to be worse for all legs of the intersection than Thatcher Ave due to large trees and landscaping near the intersection. TEG recommend installing a raised intersection to provide multiple points of traffic calming as a driver moves along Washington Blvd.

TEG recommends removing street parking along the south side of the road to provide bike lanes. Curb extensions should be provided along the north side of Washington Blvd to bring pedestrians closer to oncoming traffic. Signs to not drive in the parking lane are a result of unused parking in the area and evidence that drivers attempt to improperly use the parking lane as a second lane. At the all way stop intersection this can be dangerous if drivers on the other legs are not expecting a second lane of traffic.

This behavior is even more dangerous at Keystone Ave due to the compromised sightlines. Removing parking and adding curb extensions will eliminate the possibility for drivers to incorrectly use the intersection.

Forest Ave:

- Install a curb bump out along the north side of the road.
- Provide dotted lines showing cyclists path from the west leg to the east leg to stay within bike lanes.
- Redesign Existing east crosswalk to be a raised crosswalk.

While this intersection has not seen many crashes, it is the crossing point between two parks. High speed traffic may discourage residents from using the area as it was intended. To slow drivers down while continuing to allow parking along the north side of Washington Blvd, TEG suggests installing a raised crosswalk on the east leg. This will provide greater safety for pedestrians and will force drivers to slow down even though there is no traffic control at this location. Since the parks may have residents visiting by car, parking will remain in the area with the exception that parking on the south side of Washington Blvd which will be removed to install a bike lane.

Due to the number of parks in the area TEG feels prioritizing pedestrian access in this area will benefit the corridor and community.

Park Ave:

- Transition on-street bike lanes to off-street multi-use paths.
- Provide restriped crosswalks using zebra striping to signify any bike crossing locations.
- Fix pedestrian crossing sign location.
 - o Move closer to the Franklin Ave crosswalk.
- Install curb extensions on all four corners.

Park Ave has a low crash rate similar to Forest Ave and in this case, TEG recommends transitioning away from the cross section starting at Thatcher Ave to a new cross section that matches the existing conditions with the addition of narrower 11' lanes and a 2' striped median. All four legs should have their crosswalk striping updated to zebra striping. Signing in the area includes a "Stop here for pedestrians" sign for the crosswalk on Franklin Ave. It is unclear that the sign is referring to the crosswalk on Franklin Ave based on how far it is placed from that intersection. TEG suggests relocating the sign consistent with other areas of the Village.

The park in the southeast corner along with the two parks at Forest Ave may attract more pedestrians than other portions of the corridor, so ensuring safe pathways in this area is a priority. Sightlines are adequate up to the intersection in all directions and the lack of crashes even with drivers speeding in the area supports this analysis. TEG suggests maintaining some form of cycling infrastructure through the intersection using a multi-use path along the north and south side of Washington Blvd. The path should be located closer to the existing roadway consistent with sidewalk offsets west of Park Ave.

Franklin Ave:

- Install a raised intersection.
- Remove existing sidewalk and install multi-use path closer to Washington Blvd.
 - o Restripe south crosswalk and move stop bar closer to Washington Blvd.
 - o Remove unnecessary sidewalk and existing crossings along north and south side of Washington Blvd.
- Install curb extensions on all four corners.
- Redesign Existing crosswalks to be raised crosswalks.
 - o Use zebra striping as applicable.

Franklin Ave is a relatively safe intersection with the main crash type being rear ends. Both drivers and cyclists complained about sight distance issues at Franklin Ave in the resident survey. This may be due to the unique 5-leg intersection geometry and the 40' set back of the sidewalk beginning in the southeast. TEG suggests replacing the sidewalk in the area with a multi-use path setback a maximum of 10' from Washington Blvd. This will ensure pedestrians don't feel disconnected from the street. When drivers can't see pedestrians, they can't make alterations to their driving patterns to account for the possibility a person on foot could come into the road from any angle.

Providing off-street bicycle accommodations will encourage more residents to cycle. It is important to provide facilities considered Level of Traffic Stress 1 (LTS1) by IDOT to allow beginners a safe place to avoid riding in traffic. LTS1 facilities are typically off-road and can comfortably be used by all residents including children, unlike some on-street facilities.

Ashland Ave:

- Remove existing sidewalk and install multi-use path closer to Washington Blvd.
 - o Restripe south crosswalk and move stop bar closer to Washington Blvd.
 - o Remove unnecessary sidewalk and existing crossings along north and south side of Washington Blvd.
- Install curb extensions on all four corners.
- Provide restriped crosswalks using zebra striping to signify any bike crossing locations.

Ashland Ave saw an extreme number of angle crashes over the analysis period. All groups surveyed agreed that visibility at Ashland Ave is lacking. TEG believes this is primarily due to the large offset of the sidewalks along the north and south side of Washington Blvd that push back the stop bars for drivers waiting to turn onto Washington Blvd.

To correct the problems at this intersection TEG suggests maintaining the on-street cross section and multi-use paths installed beginning at Park Ave. This will relocate the crosswalk closer to Washington Blvd and allow the Village to move the existing stop bar closer to the traveled way. Installing curb extensions on all four corners will make it apparent to drivers on Washington Blvd that there is an intersection at this location.

Lathrop Ave:

- TEG recommend as few changes as possible that will impact the eastern leg
- Install a raised intersection.
- Install curb extensions on the northwest and southwest corners.
- Redesign Existing crosswalks to be raised crosswalks.

The intersection is high volume, and all crash types correspond to what is standard for a signalized intersection. TEG would suggest installing curb extensions to make it clear the road is one-lane per direction as drivers enter the Village. Cyclist considerations should include the termination of the MUP into the existing sidewalk network.

TEG recommends installing a raised intersection at this location as well to slow drivers as they enter the Village. Additionally, multiple raised intersections throughout the corridor are more effective than a single placement. In this case raised intersections at Thatcher Ave and Lathrop Ave will address speeding as drivers enter the Village and the raised intersection at Keystone Ave will help to address speeding within the corridor.

Other Alternative Designs

TEG is proposing alternative cross sections in addition to the preferred alternative. These include both alternative cross-sections that may be implemented throughout the corridor. Below is a listing of these alternative options along with how they fit into the corridor wide improvement.

Western Alternative 2

The Western Alternative 2 proposes two 11' through lanes along the north side of the road, an 8' parking lane, 2' buffer, and an 8' bi-directional bike lane. At Park Ave the cross section would transition to an off-street multi-use path and lanes would shift back to the south. Curb extensions may not be compatible with this cross-section design.

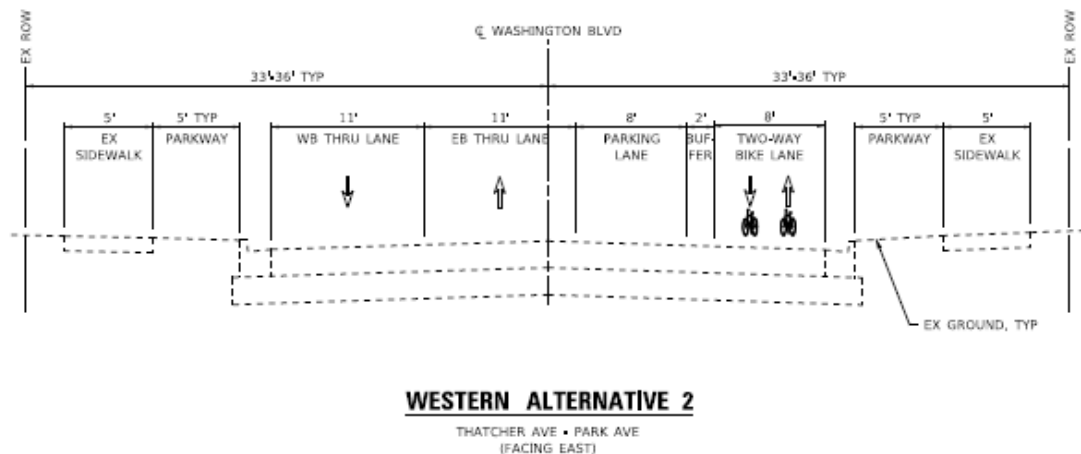


Figure 14. Western Typical Section Alternative 2 Washington Blvd.

Western Alternative 3

The Western Alternative 3 proposes an 8' parking lane along the north side of the road, two 11' through lanes, a 2' buffer, and an 8' bi-directional bike lane. At Park Ave the cross section would transition to an off-street multi-use path. Curb extensions can still be provided at the northern corners using this design.

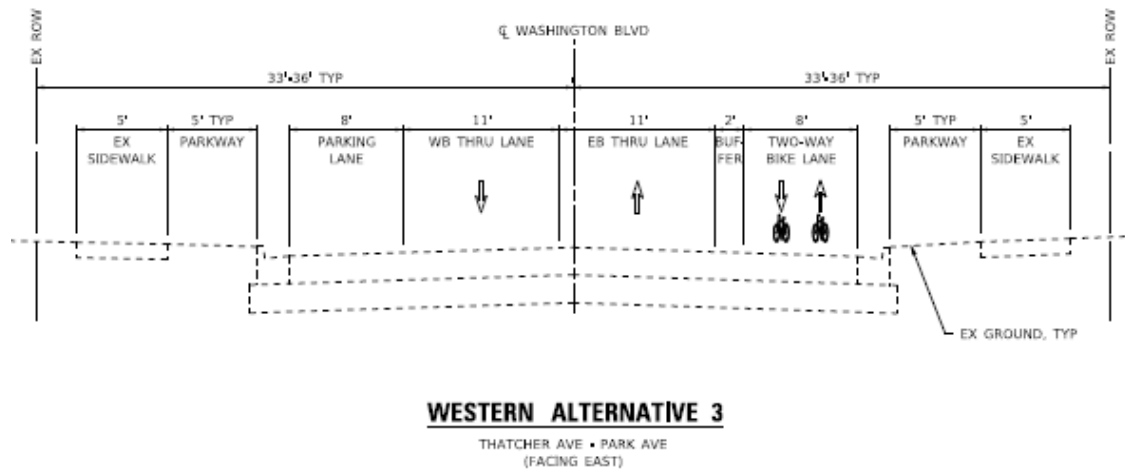


Figure 15. Western Typical Section Alternative 3 Washington Blvd.

Eastern Alternative 2

Eastern Alternative 2 is identical to West Alternative 1. Parking will remain in place along the north side of the road and will be removed from the south side of the road. The cross section provides 8' of parking along the north side of the road, a 2' buffer, a 3' westbound bike lane, two 11' through lanes, a 2' buffer, and 3' eastbound bike lane. Curb extensions will still be provided along the north side of the road and sidewalks will still be realigned at the intersections to be closer to Washington Blvd.

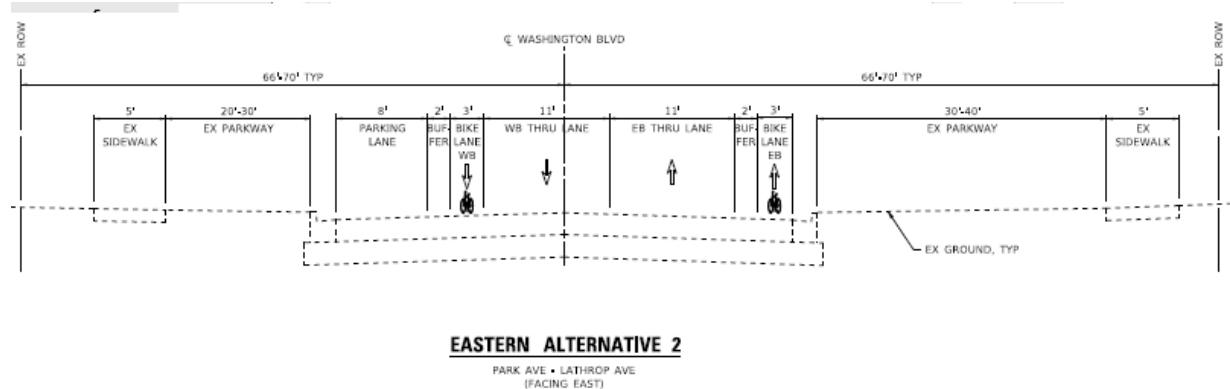


Figure 16. Eastern Typical Section Alternative 2 Washington Blvd.

The intention of providing multiple lane configurations is to allow the Village to select the design they feel is most appropriate in the area. Sample exhibits using alternative cross sections are provided and drafted at sample intersections (Washington Blvd and Gale Ave, Washington Blvd and Ashland Ave) and can be viewed in Appendix F.05: Washinton Blvd Exhibits.

Washington Blvd Exhibits

* LABELS ARE PROVIDED AT LOCATIONS WITH SIGNIFIGANT CHANGES TO PARKING OR PEDESTRIAN FACILITIES

** APPROXIMATELY 35 EASTBOUND PARKING SPOTS ARE BEING REMOVED FROM THE ROAD OR 45% OF ALL EASTBOUND PARKING. IT IS ASSUMED THE REMAINING PARKING SPACES, AS WELL AS, SIDE STREET PARKING WILL ACCOMODATE DRIVERS LOOKING TO PARK IN THE AREA



WASHINGTON BLVD EXISTING

PROPOSED IMPROVEMENTS WEST SECTION:

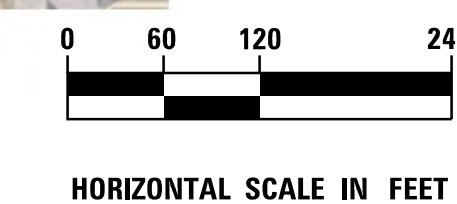
1. RAISED INTERSECTIONS: THATCHER AVE & KEYSTONE AVE
2. A NEW CROSS SECTION BETWEEN THATCHER AVE AND PARK AVE THAT INCLUDES REMOVING PARKING ALONG THE SOUTH SIDE OF WASHINGTON BLVD AND ADDING ON-STREET BIKE LANES.
3. CURB EXTENSIONS WILL BE PROVIDED ON THE NORTH SIDE OF ALL INTERSECTIONS FROM THATCHER AVE TO FOREST AVE.
4. FOREST AVE WILL HAVE A RAISED CROSSWALK INSTALLED ALONG ITS EAST LEG.

PROPOSED IMPROVEMENTS EAST SECTION:

1. RAISED INTERSECTIONS: FRANKLIN AVE & LATHROP AVE
2. FROM PARK AVE TO LATHROP AVE THE CROSS SECTION WILL REMAIN THE SAME WITH THE ADDITION OF A 2' STRIPED CENTER MEDIAN ALONG WITH CURB EXTENSIONS AT ALL INTERSECTIONS.
3. STARTING AT PARK AVE TO THE EAST THE ON-STREET BIKE LANES WILL BE MOVED TO AN OFF-STREET MULTI-USE PATH. TEG CURRENTLY SHOWS THE PATH ON BOTH SIDES OF THE ROAD.
4. THE EXISTING SIDEWALK STARTING AT PARK AVE TO THE EAST WILL BE REMOVED IN FAVOR OF THE PR MULTI-USE PATH PLACED 5' FROM THE BACK CURB. STRIPING WILL BE REPLACED WITH NEW ZEBRA STRIPING.



WASHINGTON BLVD PROPOSED



DRAWN BY **KRS** DATE **8/25/23**
 CHECKED BY **JMY** SCALE **1' = 120'**

REVISIONS		
NO.	DATE	DESCRIPTION



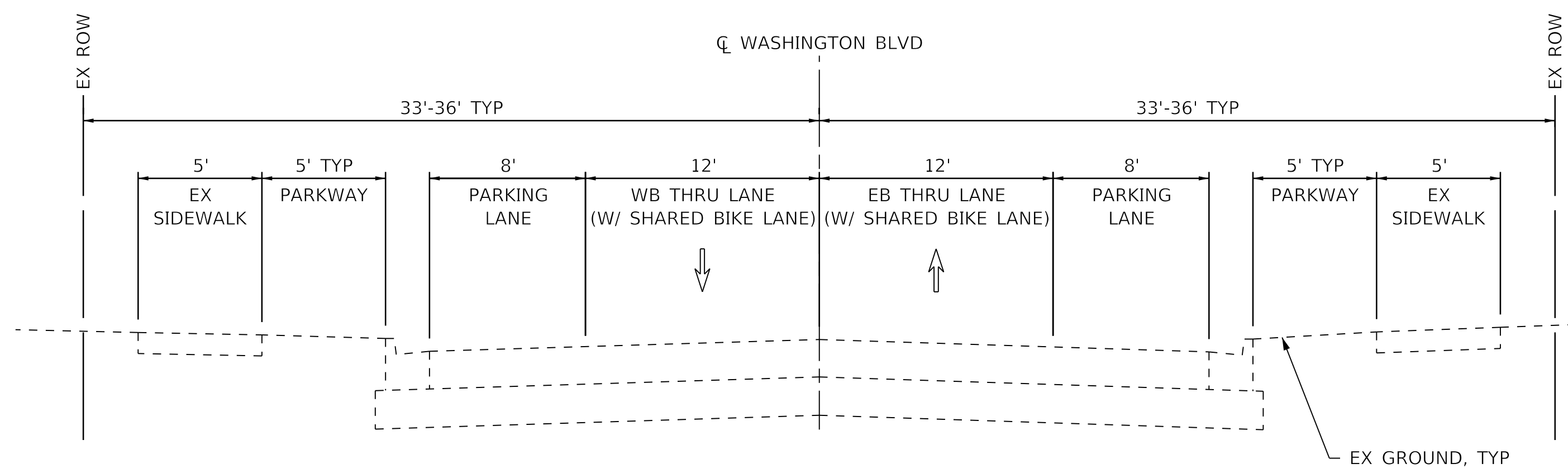
thomas engineering group, llc
 2625 butterfield road
 suite 209w
 oak brook, il 60523
 phone: 855-533-1700



WASHINGTON BLVD OVERVIEW

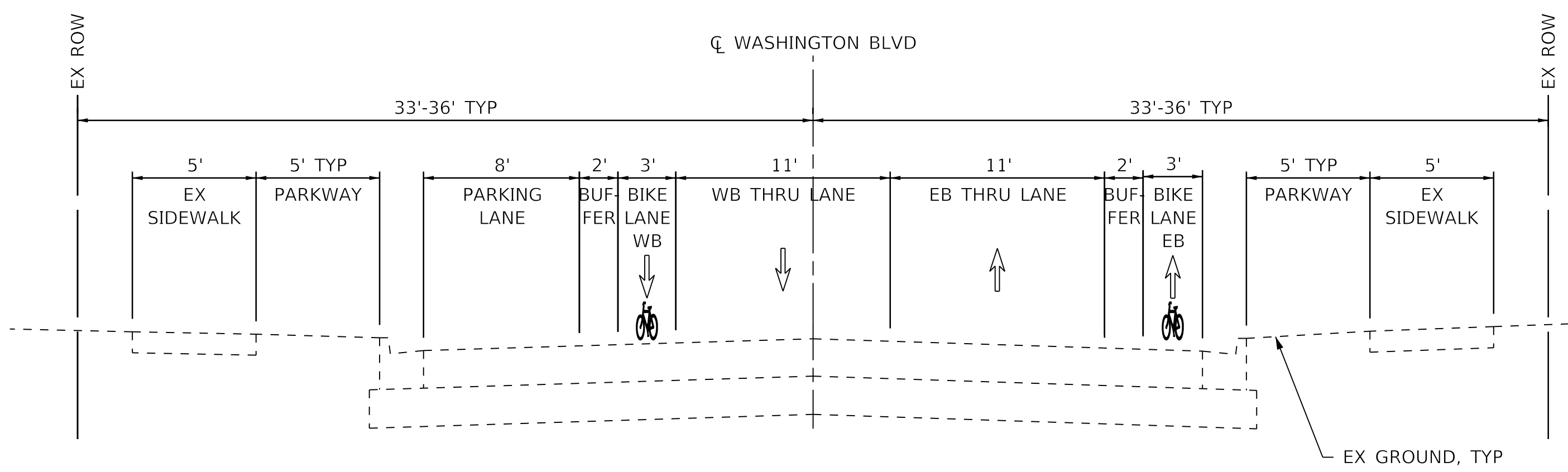
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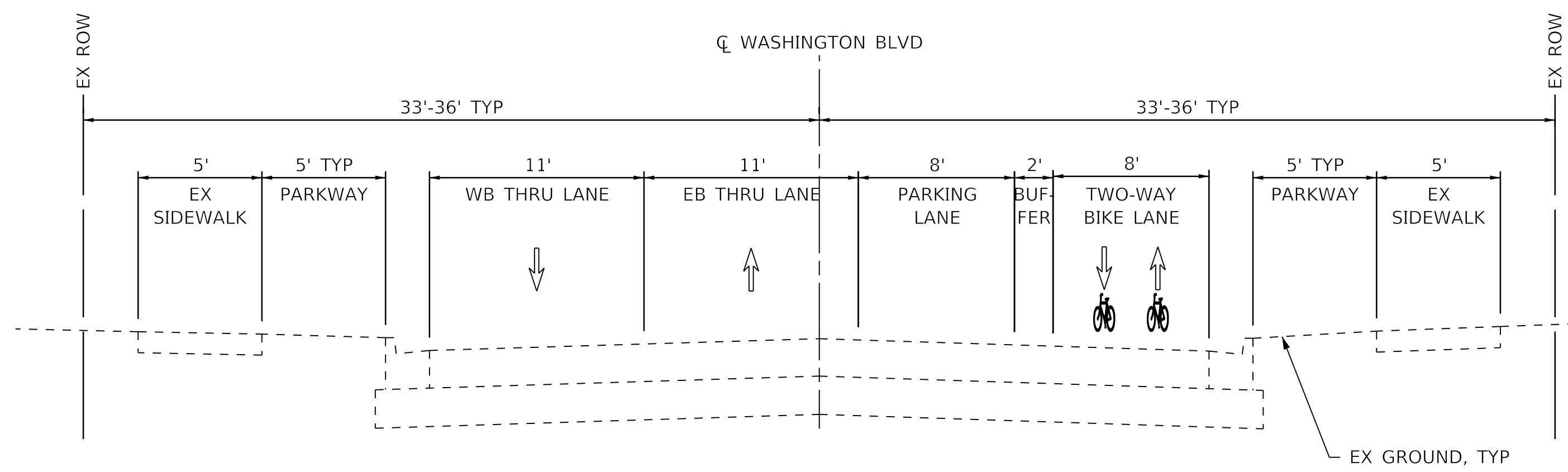
EXISTING WESTERN TYPICAL SECTION

THATCHER AVE - PARK AVE
(FACING EAST)



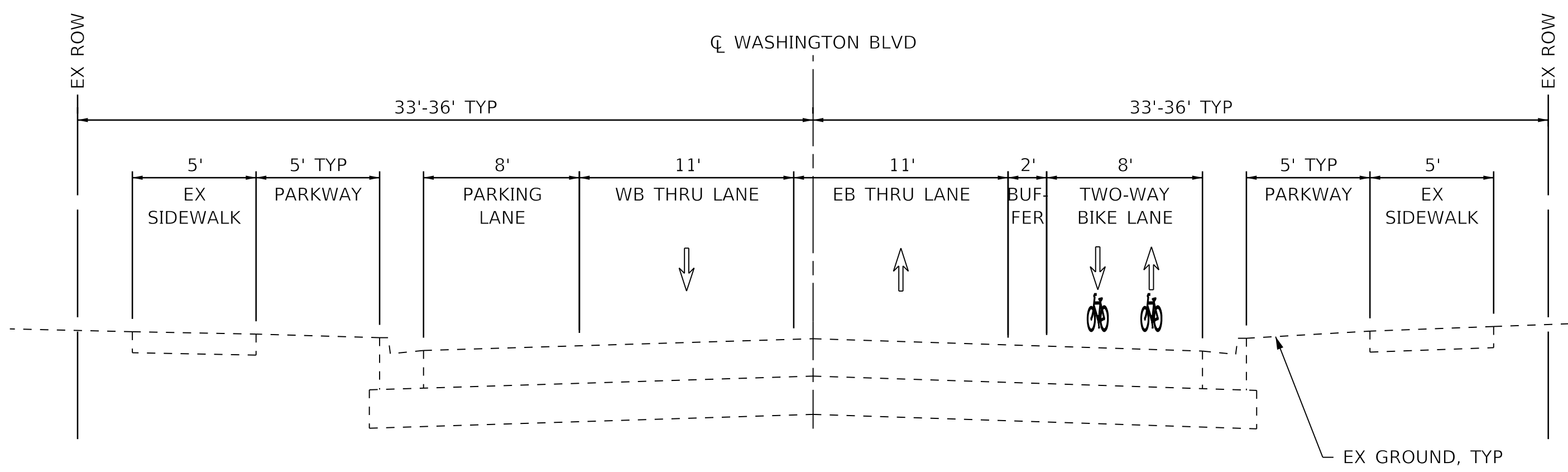
WESTERN ALTERNATIVE 1

THATCHER AVE - PARK AVE
(FACING EAST)



WESTERN ALTERNATIVE 2

THATCHER AVE - PARK AVE
(FACING EAST)



WESTERN ALTERNATIVE 3

THATCHER AVE - PARK AVE
(FACING EAST)

NOTES

1. PROPOSED ALTERNATIVES WILL MOVE THE CENTERLINE FROM THE CROWN OF THE ROAD
2. PARKING AND BIKE LANES ARE SHOWN IN TEG'S PREFERRED ORIENTATION, BUT WE CAN ACCOMMODATE PARKING AND BIKE ON EITHER SIDE PER VILLAGE PREFERENCE.
3. PARKING IS INTERMITTENT AND BREAKS FOR DRIVEWAY AND INTERSECTIONS. TEG IS NOT PROPOSING ANY NEW PARKING SPACES BEYOND WHAT IS STRIPED IN THE EXISTING CONDITIONS.
4. STARTING AT PARK AVE TO THE EAST THE ON-STREET BIKE LANES WILL BE MOVED TO AN OFF-STREET MULTI-USE PATH IF THE OFF-STREET ALTERNATIVE IS CHOSEN.

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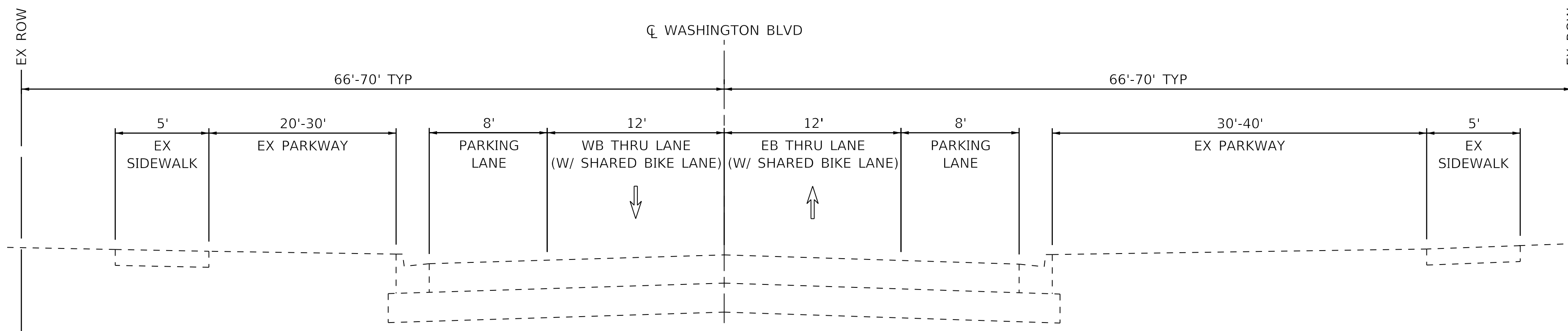
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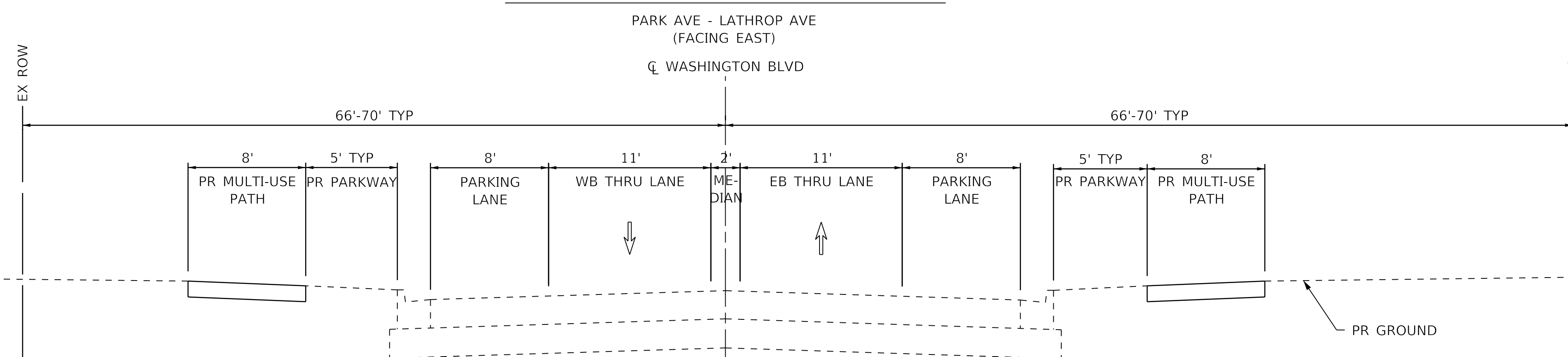
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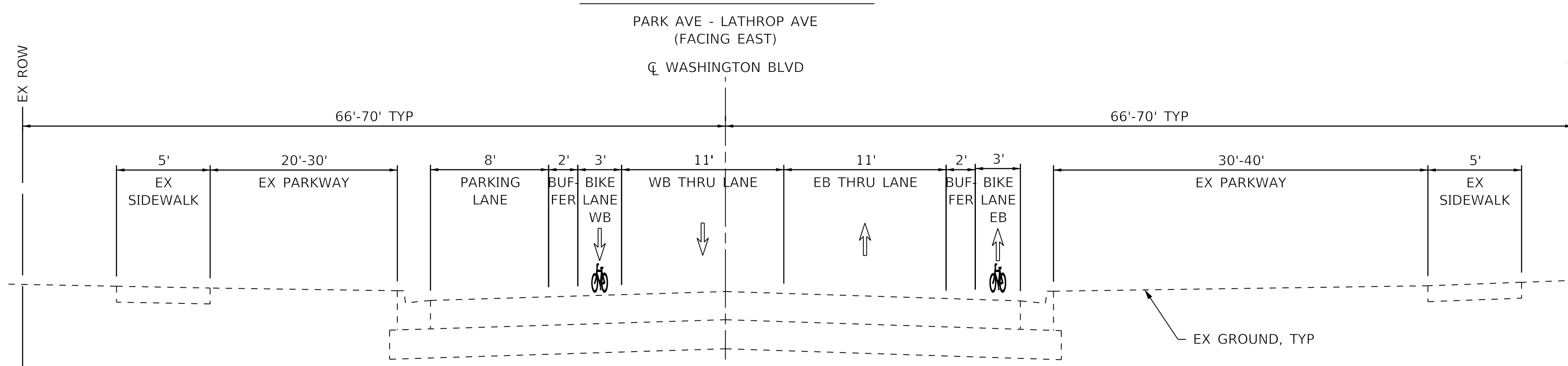
**WASHINGTON BLVD WESTERN
TYPICAL SECTIONS**



EXISTING EASTERN TYPICAL SECTION



EASTERN ALTERNATIVE 1



EASTERN ALTERNATIVE 2

NOTES

1. PROPOSED ALTERNATIVES WILL MOVE THE CENTERLINE FROM THE CROWN OF THE ROAD
2. PARKING AND BIKE LANES ARE SHOWN IN TEG'S PREFERRED ORIENTATION, BUT WE CAN ACCOMMODATE PARKING AND BIKE ON EITHER SIDE PER VILLAGE PREFERENCE.
3. PARKING IS INTERMITTENT AND BREAKS FOR DRIVEWAY AND INTERSECTIONS. TEG IS NOT PROPOSING ANY NEW PARKING SPACES BEYOND WHAT IS STRIPED IN THE EXISTING CONDITIONS.
4. STARTING AT PARK AVE TO THE EAST THE ON-STREET BIKE LANES WILL BE MOVED TO AN OFF-STREET MULTI-USE PATH IF THE OFF-STREET ALTERNATIVE IS CHOSEN.

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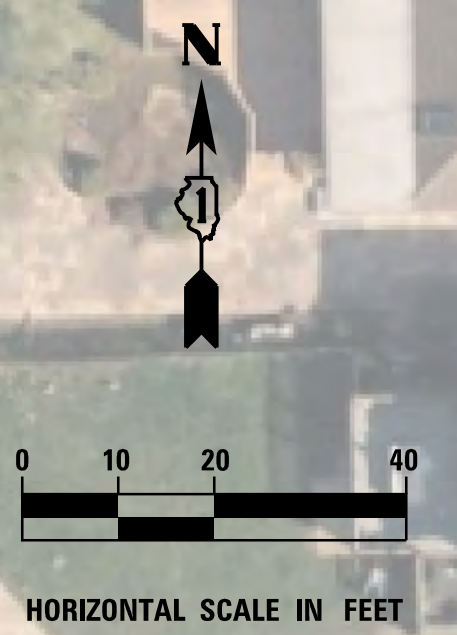
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WASHINGTON BLVD EASTERN TYPICAL SECTIONS



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**WASHINGTON AT THATCHER
 ALTERNATIVE 1**

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4 OF 14



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WASHINGTON AT GALE
ALTERNATIVE 1

DRAWING NO.
5 OF 14



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CHECKED BY JMY **SCALE** 1' = 20'

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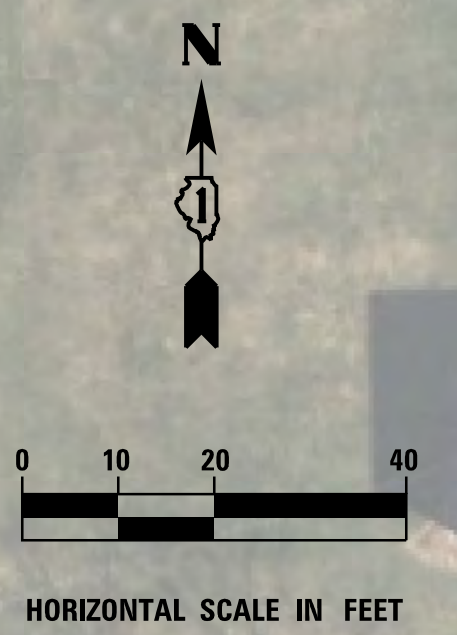
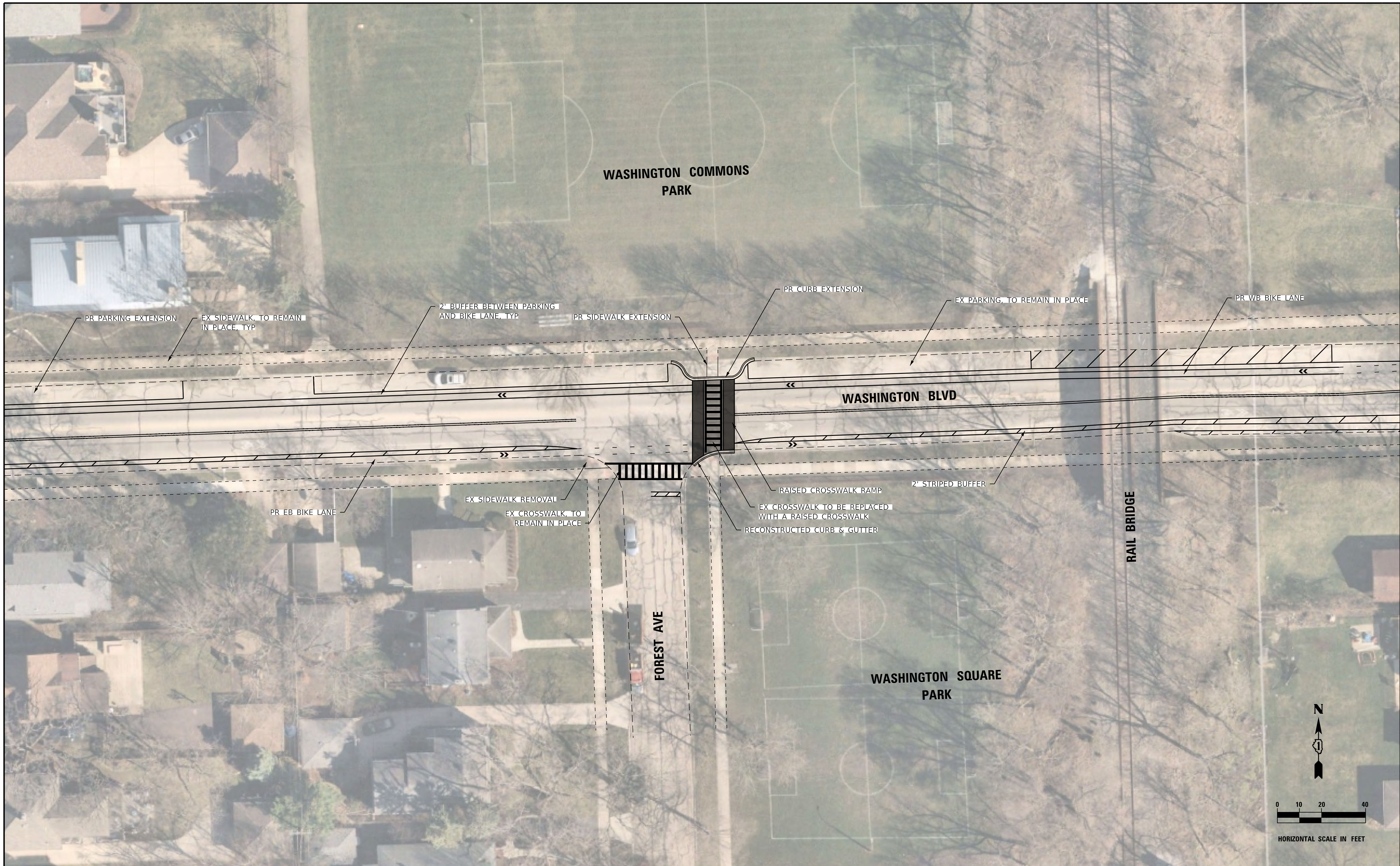
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**WASHINGTON AT KEYSTONE
 ALTERNATIVE 1**

DRAWING NO.
 6 OF 14



DRAWN BY KRS **DATE** 8/25/23
CHECKED BY JMY **SCALE** 1" = 20'

REVISIONS		
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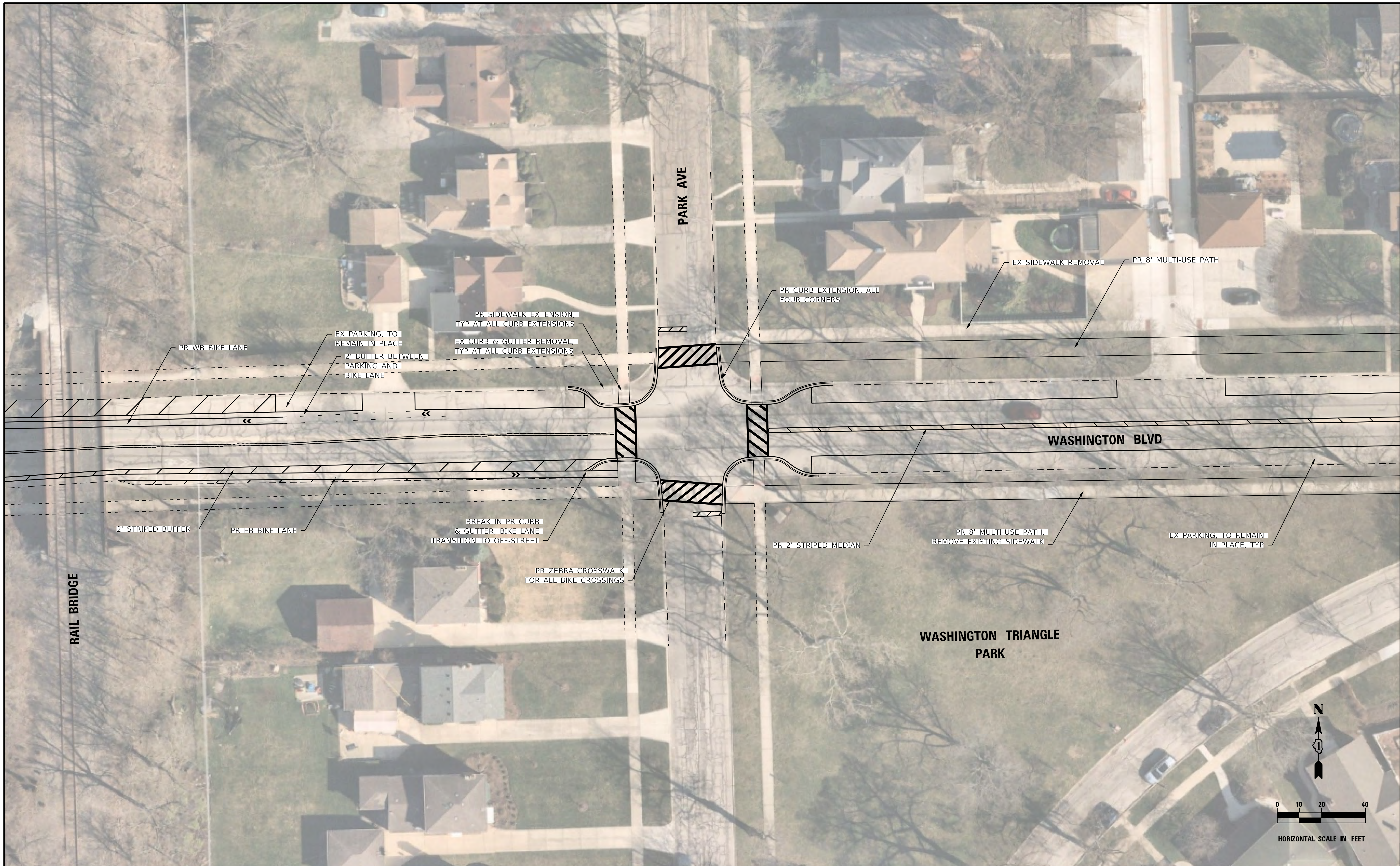
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**WASHINGTON AT FOREST
 ALTERNATIVE 1**

DRAWING NO.
 7 OF 14



DRAWN BY KRS **DATE** 8/25/23
CHECKED BY JMY **SCALE** 1" = 20'

REVISIONS		
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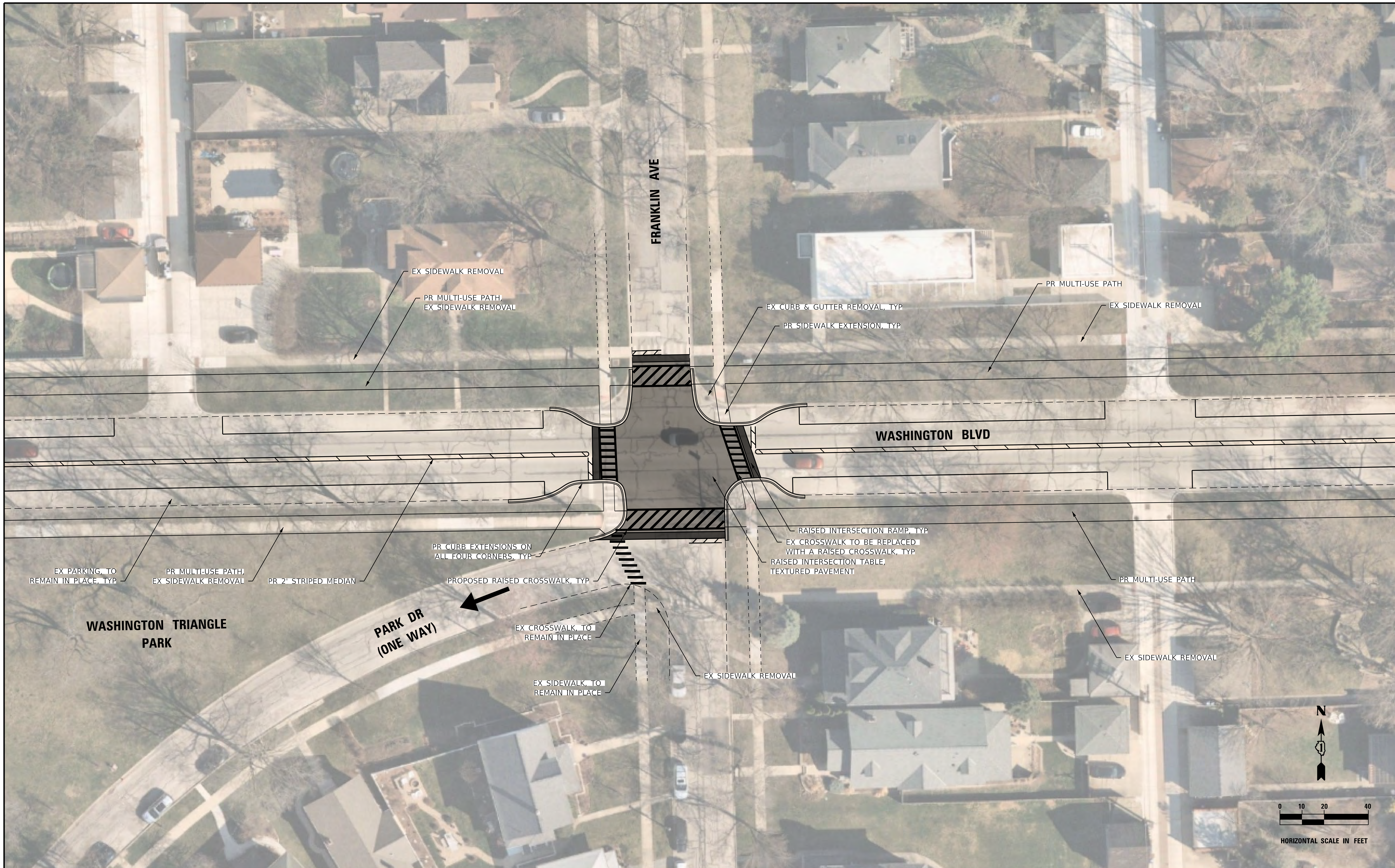
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**WASHINGTON AT PARK
 ALTERNATIVE 1**

DRAWING NO.
 8 OF 14



DRAWN BY KRS **DATE** 8/25/23

CHECKED BY JMY **SCALE** 1' = 20'

REVISIONS		
NO.	DATE	DESCRIPTION

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**WASHINGTON AT FRANKLIN
ALTERNATIVE 1**

DRAWING NO.
9 OF 14



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CHECKED BY JMY **SCALE** 1" = 20'

REVISIONS		
NO.	DATE	DESCRIPTION

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**WASHINGTON AT ASHLAND
 ALTERNATIVE 1**

DRAWING NO.
 10 OF 14



DRAWN BY KRS **DATE** 8/25/23
CHECKED BY JMY **SCALE** 1" = 20'

REVISIONS		
NO.	DATE	DESCRIPTION

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**WASHINGTON AT LATHROP
 ALTERNATIVE 1**

DRAWING NO.
 11 OF 14



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**WESTERN TYPICAL SECTION
 ALTERNATIVE 2**

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 12 OF 14



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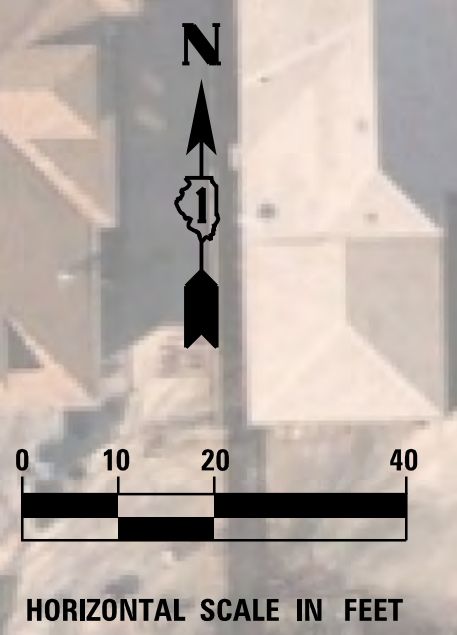
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**WESTERN TYPICAL SECTION
 ALTERNATIVE 3**

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13 OF 14



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**EASTERN TYPICAL SECTION
 ALTERNATIVE 2**

DRAWING NO.
 14 OF 14