



South of Cedar Neighborhood Traffic & Parking Management Plan



CLEVELAND
HEIGHTS



April 2020

BACKGROUND AND PURPOSE

The purpose of this project is to develop a neighborhood traffic and parking management plan that addresses concerns for the Cedar Fairmount residential area located between Cedar Road and North Park Boulevard in the Cleveland Heights' Cedar Fairmount District. This work is an outcome from the public involvement process associated with the Cedar Fairmount Top of the Hill redevelopment project.

The plan was formed in collaboration with the City of Cleveland Heights, and it included significant involvement with and input from the neighborhood residents. The overarching goal is to understand, quantify and address concerns raised by neighborhood residents, including perceived issues with traffic volume and speed on the neighborhood streets and parking patterns and regulations on each of the streets.

The study area encompasses the Cedar Fairmount neighborhood between Cedar Road and North Park Boulevard. Five neighborhood streets were the focus of the plan: Grandview Avenue, Bellfield Avenue, Delaware Drive, South Overlook Road, and Harcourt Drive.

When developing a neighborhood plan, engaging residents in every step of the plan development process is key. The process followed for development of this plan provided a variety of opportunities to residents to provide feedback at multiple points throughout the plan development and the City checked in regularly with the community to ensure the plan was on track and the residents felt that they were being heard.



Figure 1. Cedar Fairmount Neighborhood Project Area

EXISTING CONDITIONS

DATA COLLECTION AND EXISTING DATA

Traffic volumes and speed data were collected at two midblock locations on four of the five neighborhood streets, one mid-block location on Harcourt Drive, and at two locations along North Park Boulevard, as illustrated. Two data points were collected on four of the five streets to distinguish between north of Cecil Place and south of Cecil Place. Data was collected for a 7-day period, scheduled to avoid events that could impact traffic conditions, like holidays and school breaks. Field observations were conducted during the data collection period to document traffic behaviors and trends on the study area streets. In addition, supplemental traffic data from the Top of the Hill studies were reviewed and incorporated for Cedar Road traffic volumes, as appropriate.

Parking data was obtained during the same timeframe as the traffic data collection; parking data was collected on three separate days to document weekday, Friday, and Saturday parking trends. License plates of parked vehicles was recorded every hour to capture parking utilization and duration. On-street parking space capacity was determined by recording the base linear feet of curbside area, placement of posted signage, and adequate line-of-sight clearances from intersections and between private driveway aprons and calculating the number of 20 ft parking stalls that would fit within the available space on each block face.

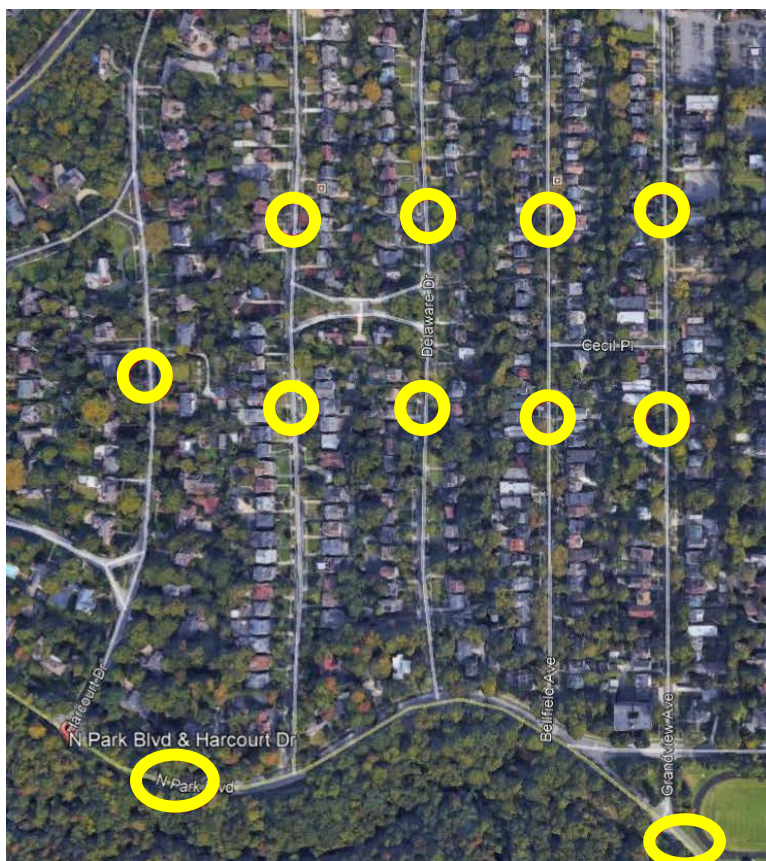


Figure 2. Traffic Volume and Speed Data Collection Points

Traffic Volume and Speed Data

Traffic volume and speed data were collected between 1:00pm on Monday, April 8, 2019 through 12:00pm on Monday, April 15, 2019. The traffic volume data is summarized in Table 1 which provides the AM peak volumes, PM peak volumes, and average daily traffic volumes for the streets within the study area. The traffic volumes for the north-south streets are typical for neighborhood streets and do not indicate high volumes through traffic in the neighborhood. In addition, the distribution of traffic does not show distinct AM and PM peaks which would be expected if cut-through traffic was a significant issue.

Table 1. Neighborhood Traffic Volumes

STREET	AM PEAK VOLUME (VPH)	PM PEAK VOLUME (VPH)	AVERAGE DAILY TRAFFIC (VPH; WEEKDAY)
Harcourt Drive	36	43	482
South Overlook Road	40	77	784
Delaware Drive	59	85	980
Bellfield Avenue	77	90	1126
Grandview Avenue	120	149	1,582
North Park Boulevard	1,058	984	10,894

Figure 3. Traffic Volumes by Street and Time of Day – Grandview

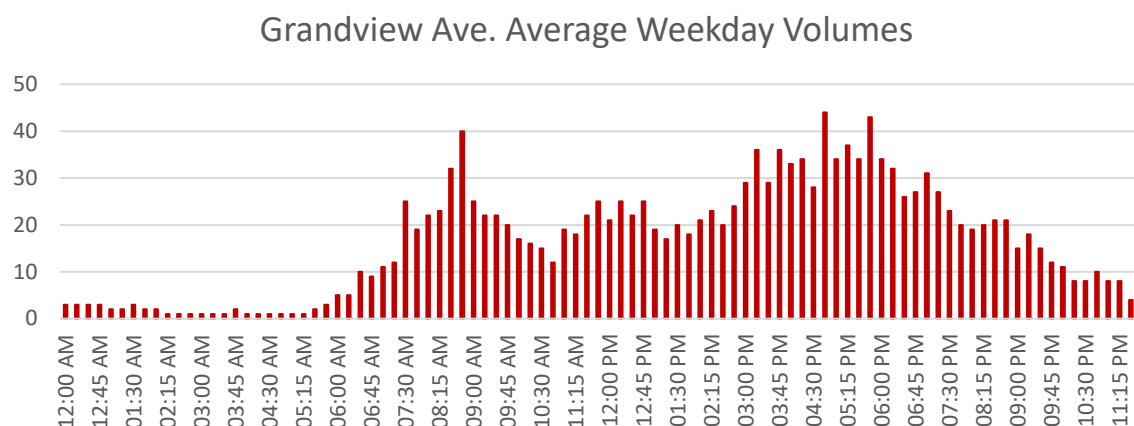


Figure 4. Traffic Volumes by Street and Time of Day – Bellfield

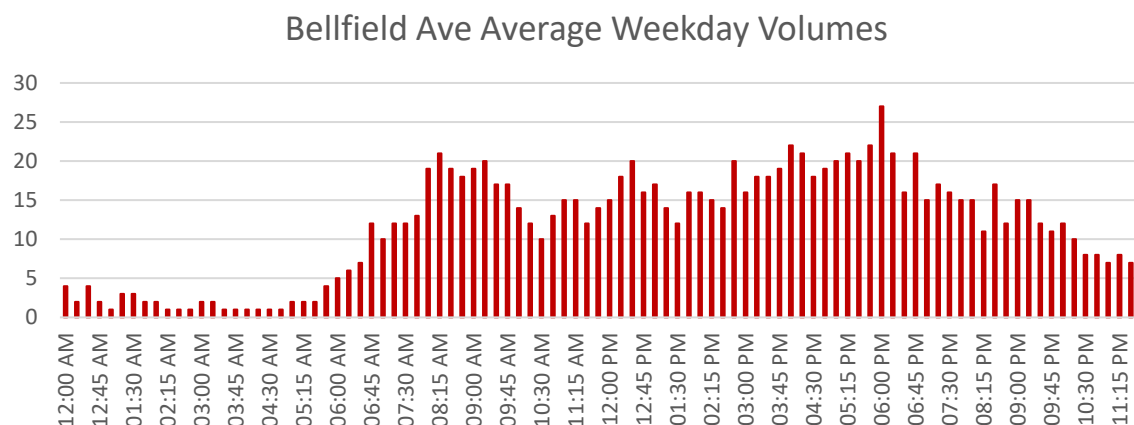


Figure 5. Traffic Volumes by Street and Time of Day - Delaware

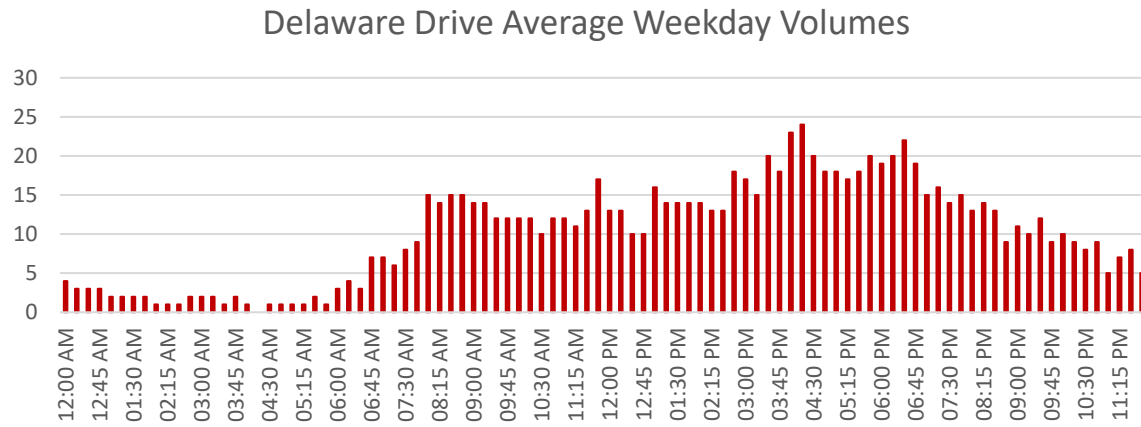


Figure 6. Traffic Volumes by Street and Time of Day - South Overlook

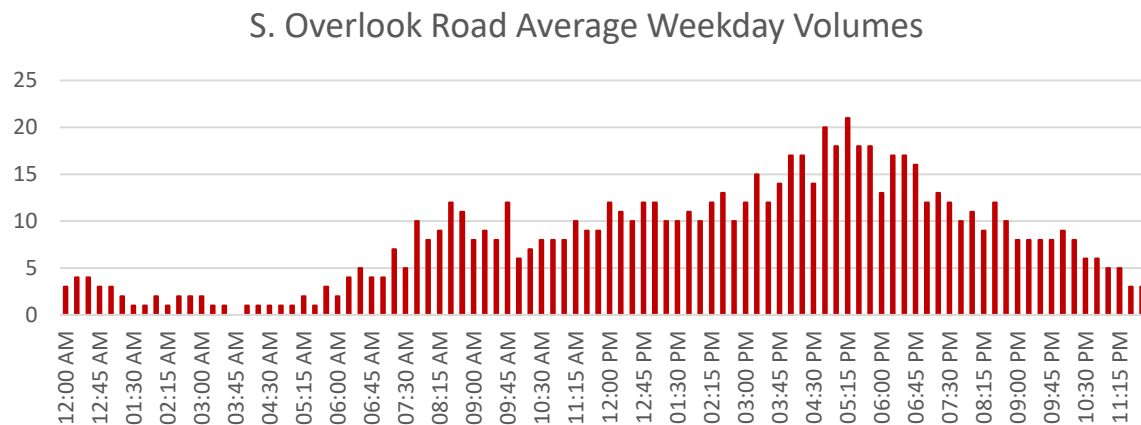


Figure 7. Traffic Volumes by Street and Time of Day - Harcourt

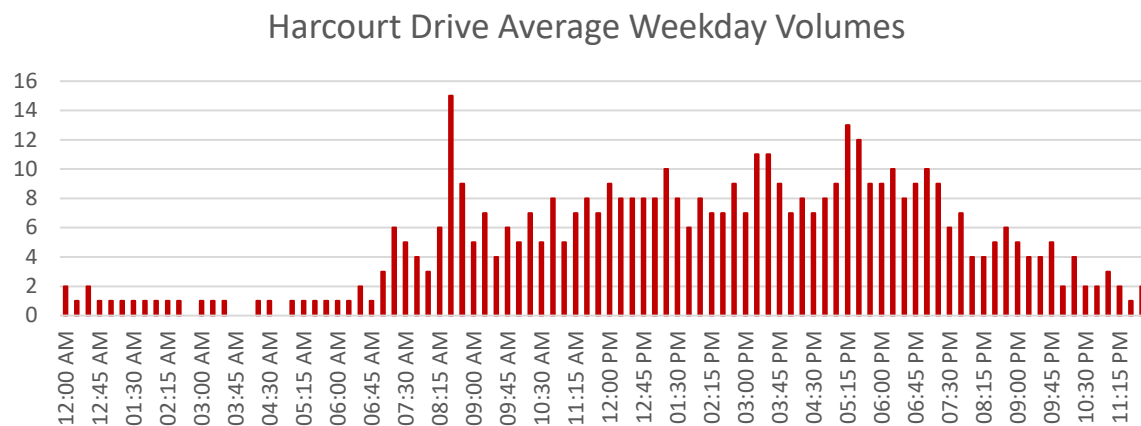
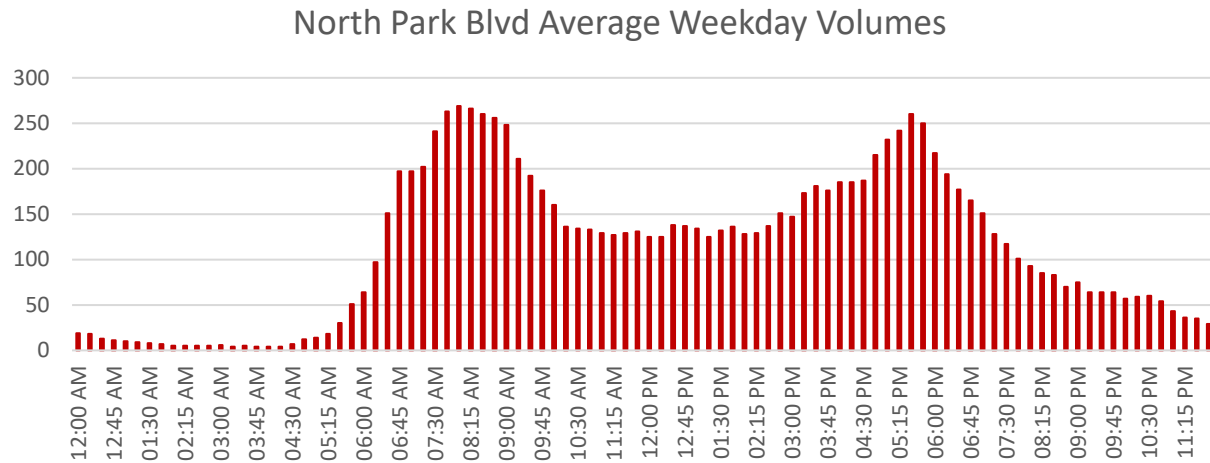
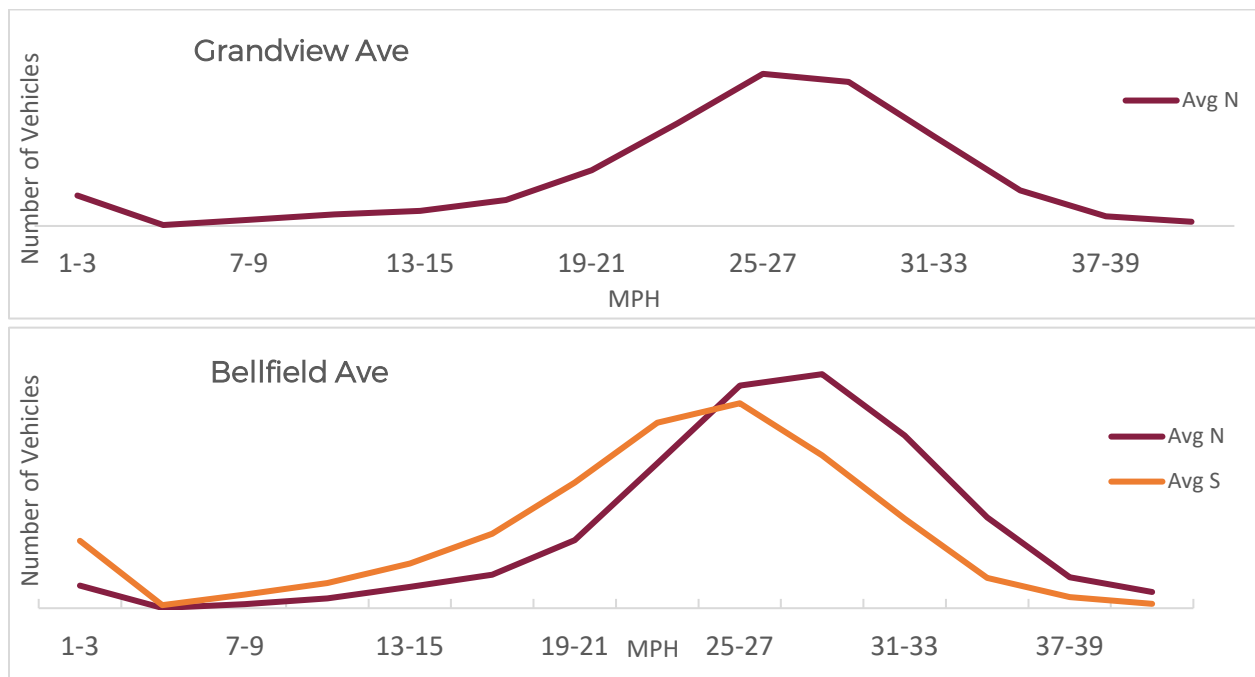


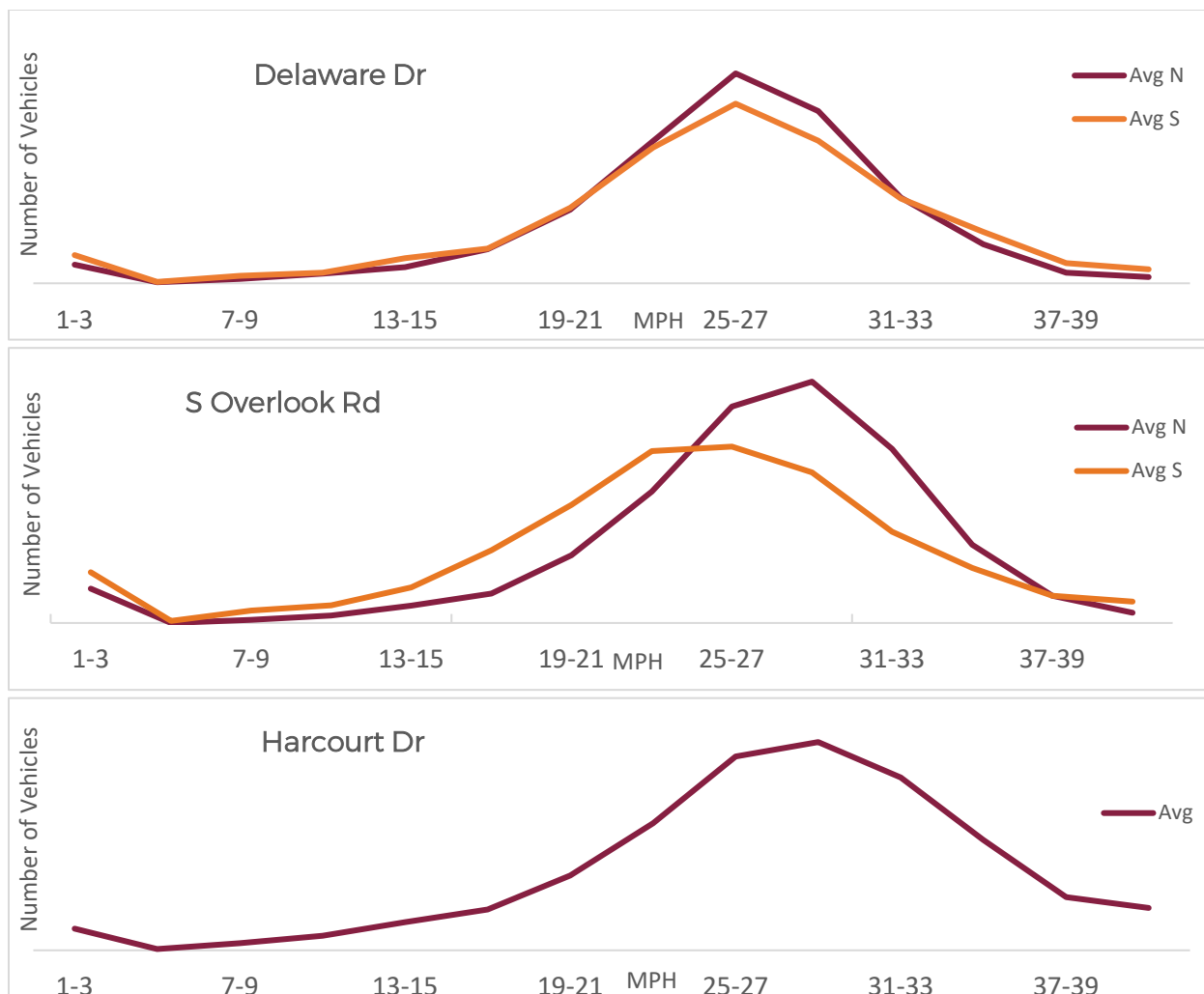
Figure 8. Traffic Volumes by Street and Time of Day – North Park



Traffic speed data was also collected and analyzed. Figure 9 illustrates the distribution of vehicle speeds for northbound and southbound vehicles on each street. The speed limit on the north-south neighborhood streets is 25 mph. The documented traffic speeds indicate the majority of both northbound and southbound traffic is traveling at or above the posted speed limit; speeding is an issue on these neighborhood streets.

Figure 9. Distribution of Vehicle Speed by Street





Crash Data

The study analyzed study area crash data, as documented and available via the Ohio Department of Transportation (ODOT) crash records for the period from 2009 through 2017. During this nine-year period, 69 crashes were reported in the study area. Of those crashes, 59 crashes (85%) resulted in property damage only, 6 crashes (9%) resulted in a possible injury, and 4 crashes (6%) resulted in a minor injury. The annual number of reported crashes ranged from 4 to 12 crashes with an average of roughly eight crashes each year. Further breakdown of crash data is provided in the figures and table below with the following noteworthy observations:

- Annual crashes are fairly consistent in number, with peaks in 2012 and 2015 and the fewest crashes in 2010 and 2017.
- On average, the most crashes occur on Wednesday, followed by Saturday, then Monday and Thursday. The fewest crashes occur on Friday and Sunday.

- Most crashes occur during the PM peak (4:00-7:00 p.m.).
- Prevalent crash types in order of frequency are: Fixed Object, Parked Vehicle and Sideswipe-Passing. These crash types appear to be the outcome of vehicles traveling at excessive speed on the narrow neighborhood streets made narrower with parked cars.
- Grandview Avenue experiences significantly more crashes than the other neighborhood streets, another indicator of the likely impact of excessive travel speed on the narrow street with high numbers of parked vehicles.

Figure 10. Crashes per Year

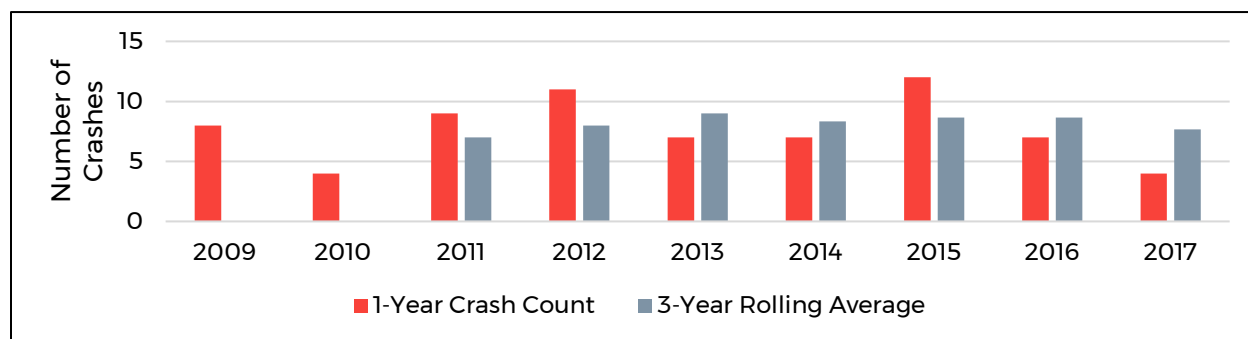


Figure 11. Crashes by Day of Week

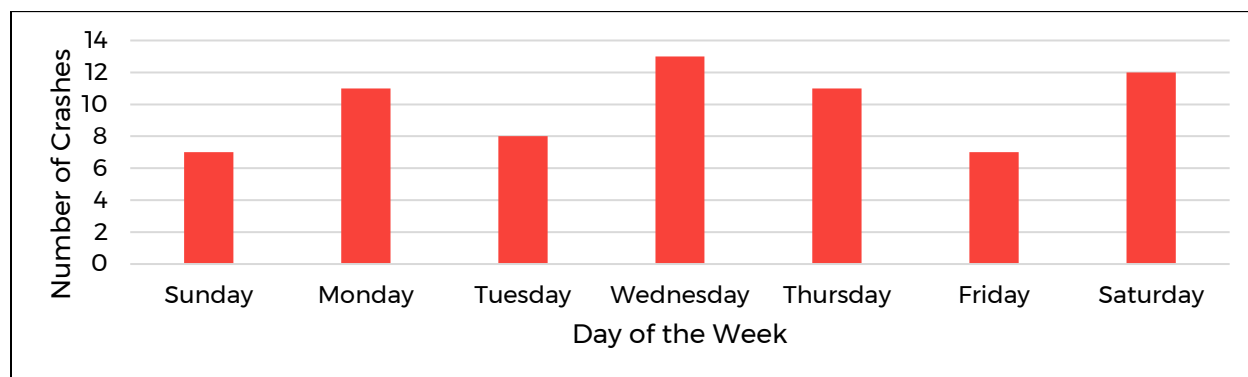


Figure 12. Crashes by Time of Day

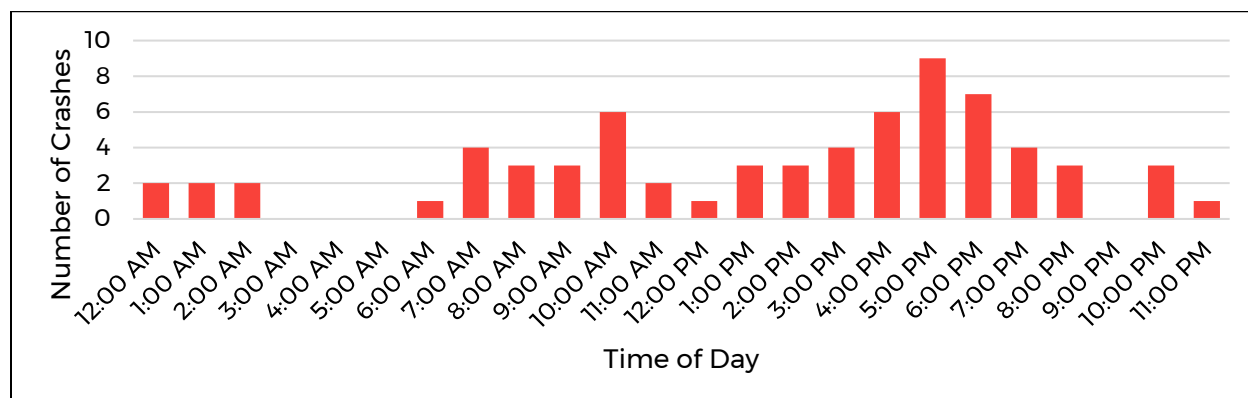


Figure 13. Crash Types

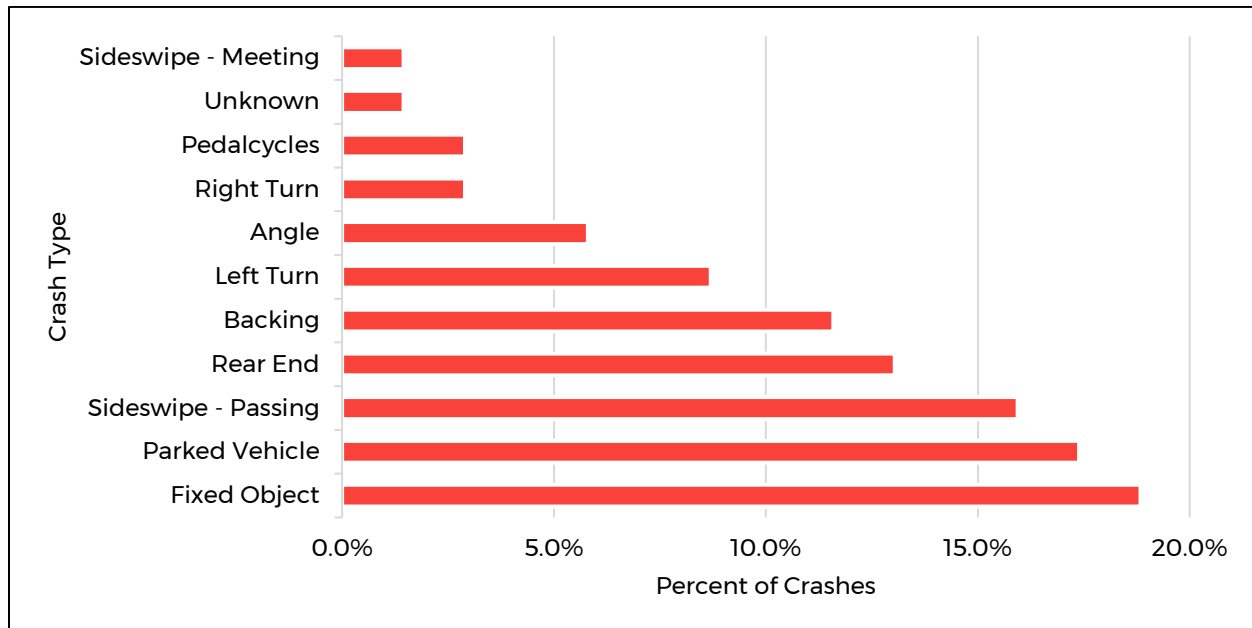
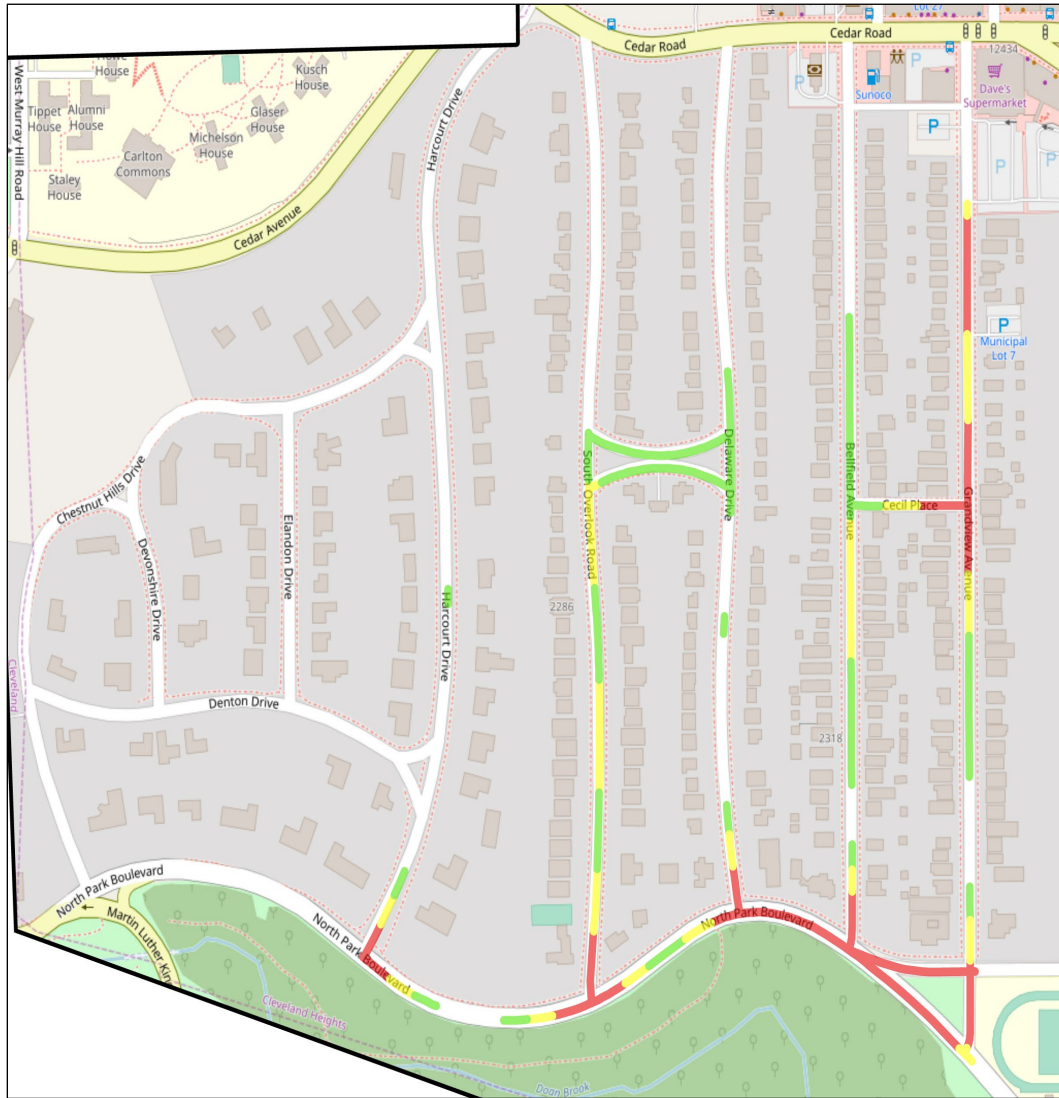


Table 2. Crash Distribution by Street

STREET	CRASH FREQUENCY	
	NUMBER	PERCENT
North Park Blvd	20	29%
Grandview Ave	20	29%
South Overlook Rd	9	13%
Bellfield Ave	9	13%
W St James Pkwy	6	9%
Delaware Dr	3	4%
Cecil Pl	1	1%
Harcourt Dr	1	1%
Total	69	100%

Figure 14. South of Cedar Neighborhood Crash Hot Spots



Parking Data

Parking data was collected on three days to capture weekday and weekend parking behaviors.

- Friday, April 12th, 2019 between 6:00am-9:00am and 12:00pm-12:00am
- Saturday, April 13th, 2019 between 6:00am-9:00am and 12:00pm-12:00am
- Wednesday, April 17th, 2019 between 6:00am-9:00am and 12:00pm-9:00pm.

On-street parking capacity was determined by linear feet of curbside area, placement of posted signage, and adequate line-of-sight clearance from intersections and between driveway aprons. Figure 14 illustrates the existing neighborhood parking policies and Table 3 provides the estimated number of available parking spaces along each street.

Figure 15. Existing Neighborhood Parking Policies

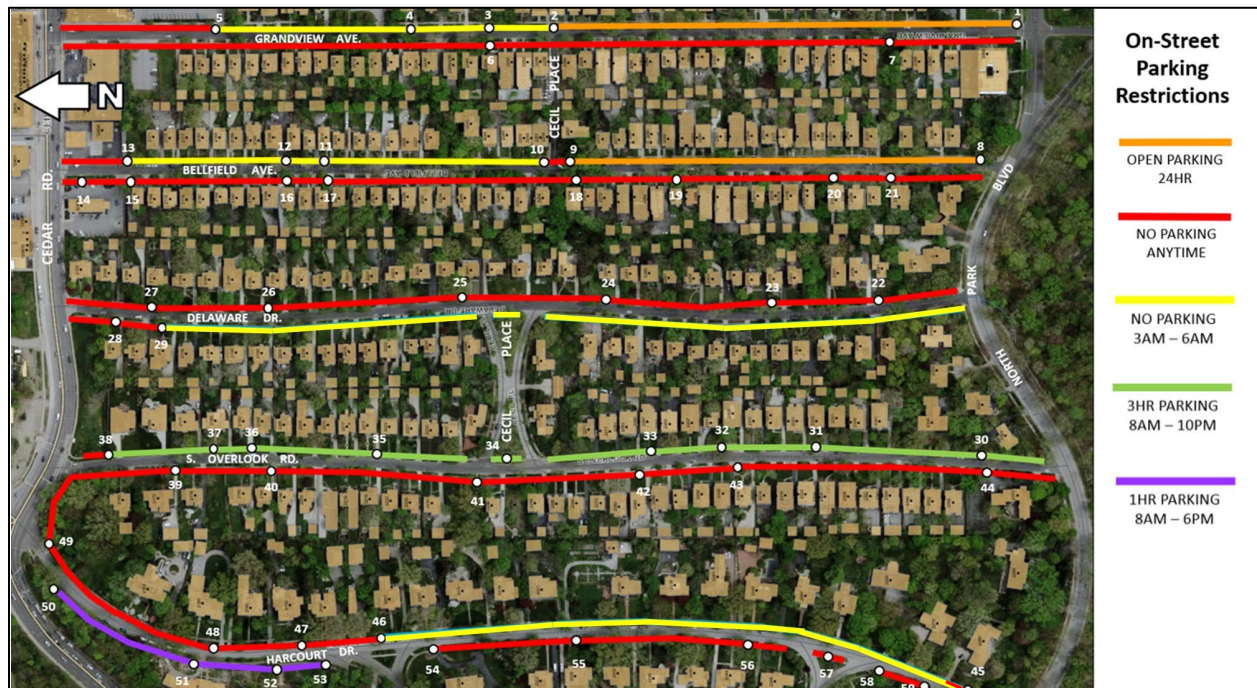


Table 3. Neighborhood Parking Capacity

South of Cedar Neighborhood On-Street Parking Capacity:	North of Cecil Place	South of Cecil Place	North of Chestnut Hill Dr. (Westside)	South of Chestnut Hill Dr. (Eastside)	Total Space Capacity
Grandview Avenue (Eastside)	27	38			65
Bellfield Avenue (Eastside)	30	29			59
Delaware Drive (Westside)	28	30			58
S. Overlook Road (Eastside)	24	36			60
Harcourt Drive (West & Eastside)			26	55	81
Total Neighborhood On-Street Parking Supply					323

Source: DESMAN estimate based on approximately 22 feet of curbside space per vehicle.

Overnight on-street parking levels on Bellfield and Grandview measured at 6:00 AM range between 67% and 78% of capacity within the legal on-street zones on Grandview and 100% of capacity within the legal on-street zones on Bellfield. For every street surveyed, on-street parking activity was generally higher on Saturday than on Friday and Wednesday. Grandview and Bellfield had greatest volumes of on-street parking with highest parking activity period occurring during the dinner hours between 6:00 PM and 8:00 PM. On-street parking levels on Delaware, Overlook and Harcourt typical ranged between 15% and 20% of capacity within the legal on-street zones; these peaks occur mostly during the early evening.

On-street parkers tend to crowd the access to driveway aprons on Grandview and Bellfield. Parkers generally adhere to posted on-street parking regulations – very little instance of illegal parking was observed. Based on duration of stay patterns most of the on-street parkers on each street appear to residents of the street. Transient parkers during evening hours and weekends account for no more than 20% of the on-street parkers.

Figure 16. Parked Vehicle Hourly Accumulation Patterns, Friday April 12th, 2019

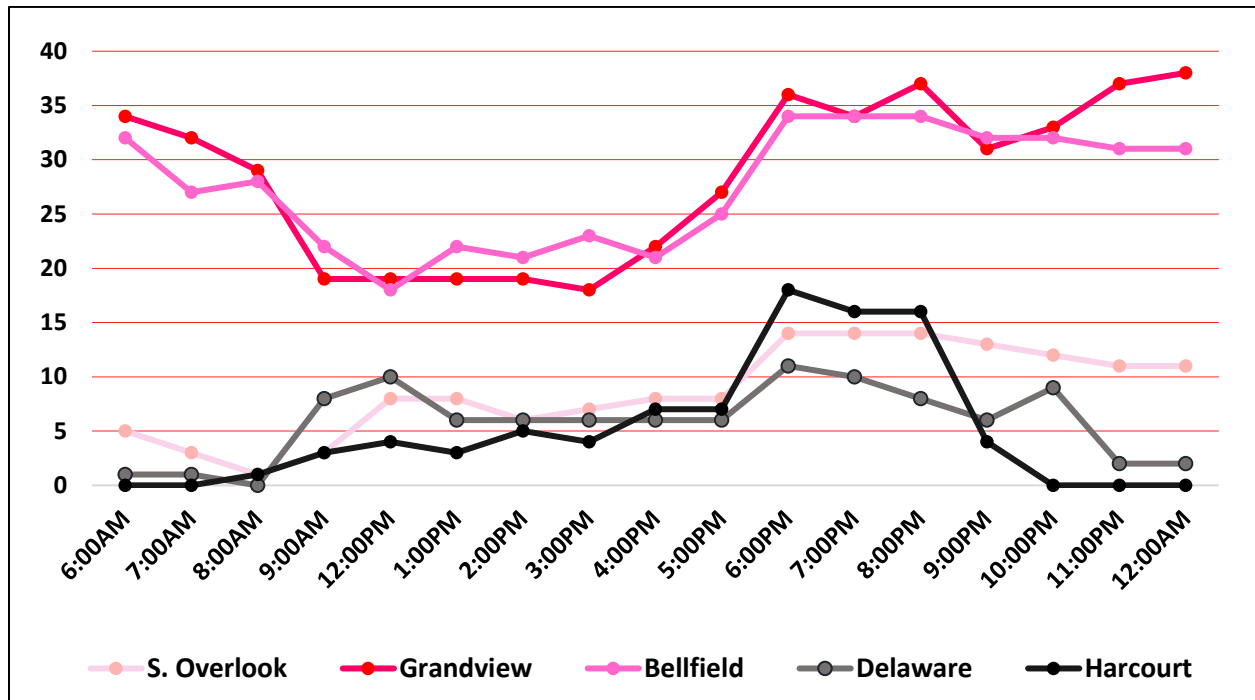


Figure 17. Parked Vehicles Hourly Accumulation Patterns, Saturday April 13th, 2019

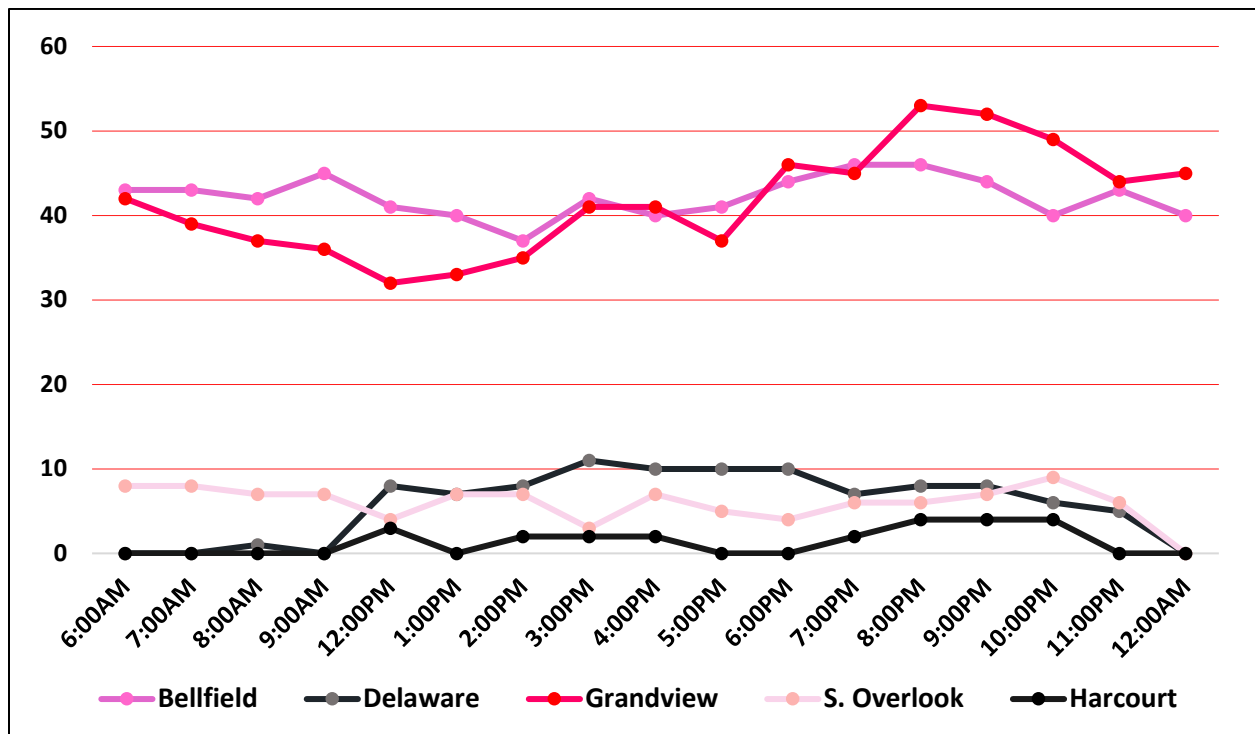


Figure 18. Parked Vehicles Hourly Accumulation Patterns, Wednesday April 17th, 2019

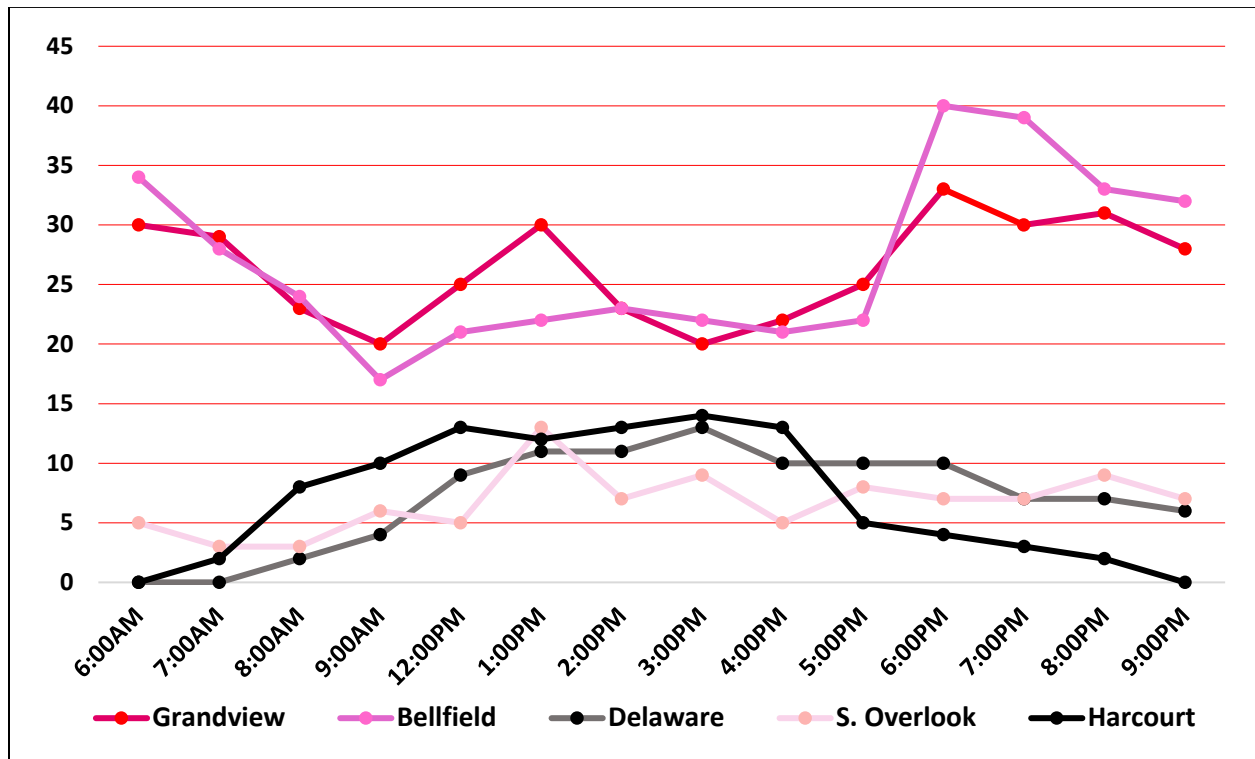


Figure 19. Parked Vehicles Duration of Stay, Friday April 12th, 2019

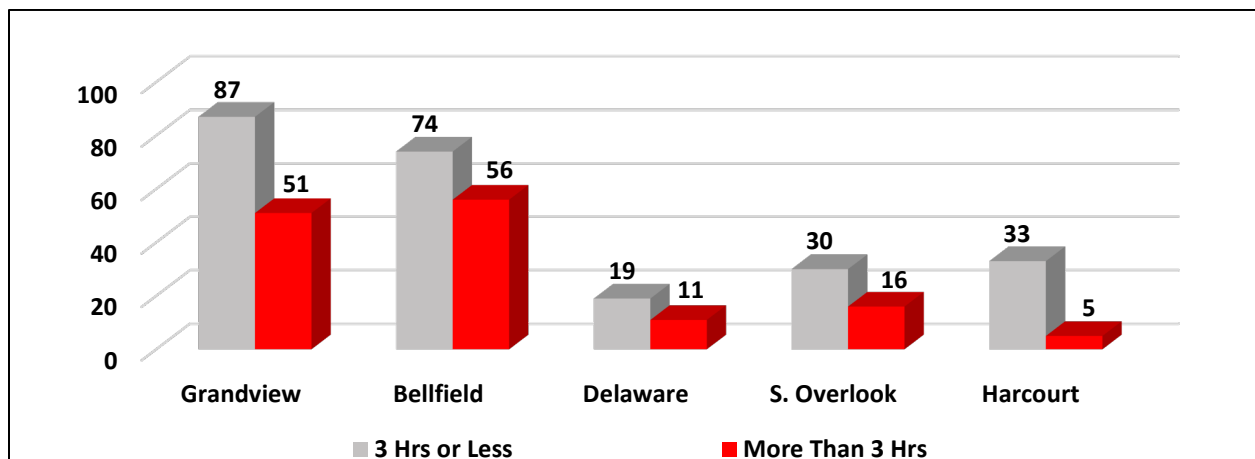


Figure 20. Parked Vehicles Duration of Stay, Saturday April 13th, 2019

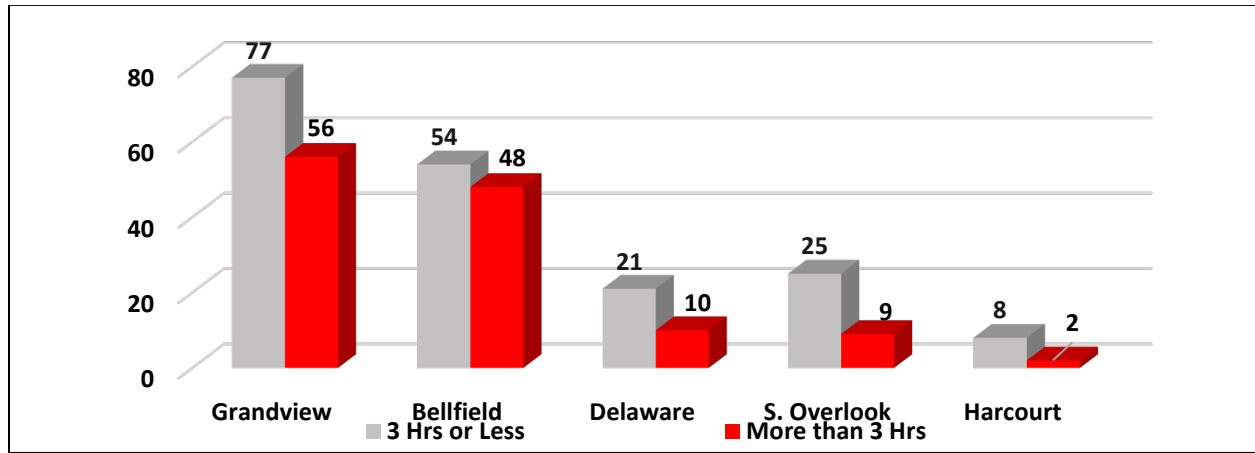
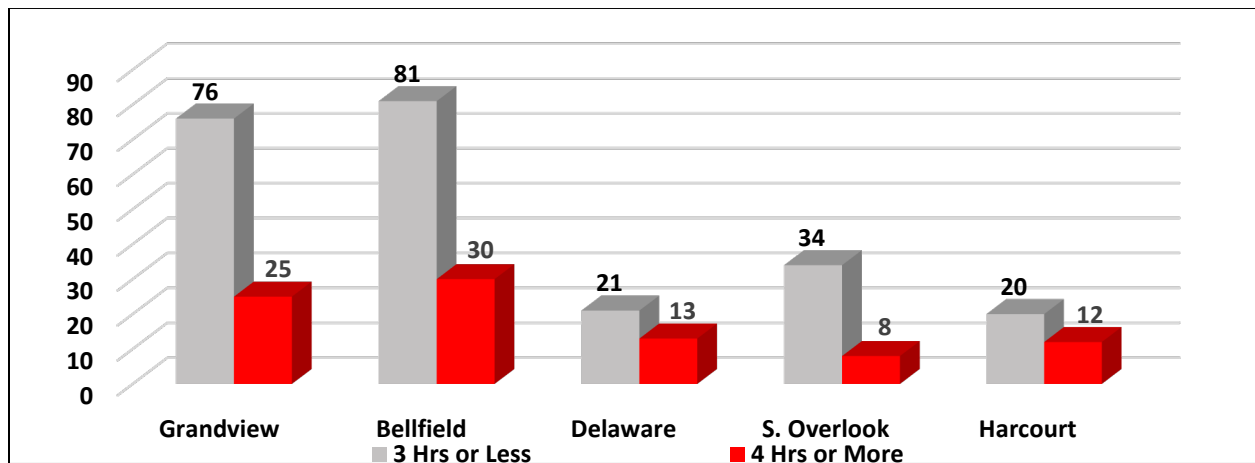


Figure 21. Parked Vehicles Duration of Stay, Wednesday April 17th, 2019



TRAFFIC MANAGEMENT & PARKING TOOLS

A variety of potential traffic calming and parking treatments was developed as a resource for plan development. Potential treatments included a variety of parking options, street modifications and treatments for traffic calming, treatments to modify or restrict vehicle travel options, and bicycle and pedestrian facilities. The toolkit included appropriate applications and anticipated impacts for each of the potential treatments.

TRAFFIC MANAGEMENT TOOLS

The traffic management tools listed below were identified by the project team as potential treatments for application within the South of Cedar neighborhood. Due to the nature of the neighborhood streets, these treatments were not considered as viable alternatives: One-way street, road closure, rumble strips, speed bumps, speed humps.

Corridor Treatments

- Bike Lanes
- Bollards
- Bump Outs
- Chicanes
- Chokers / Neckdowns
- Crosswalk, Marked
- Crosswalk, Raised
- Gateway / Public Art
- Qwik Curb
- Sharrows
- Speed Display Sign
- Speed Table
- Variable on Street Parking

Intersection Treatments

- All-Way Stop
- Bump Outs
- Crosswalk, Marked
- Crosswalk, Raised
- Do Not Enter
- Do Not Enter, limited duration
- Mini Roundabout
- Raised Intersection
- Turn Restriction
- Turn Restriction, limited duration

Figure 22. Potential Corridor Treatments



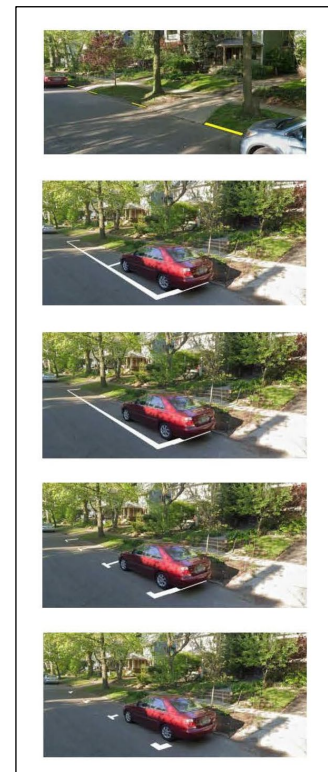
Figure 23. Potential Intersection Treatments



PARKING MANAGEMENT TOOLS

The parking management tools listed below were identified by the project team as potential treatments for application within the South of Cedar neighborhood. Implementation of a Residential Parking Permit Program

- Variable On-Street Parking
- Curb Painting of “No Parking” Zones
- Street Pavement Marking of Curbside Parking Zones
 - Individual Boxes
 - Single Larger Box
 - Divider Lines for Individual Spaces
 - Tick Marking for Individual Spaces
- Allow On-Street Parking Adjacent to Dave’s Market Lot
- Expand 24-Hr On-Street Parking Zones (north of Cecil Place)



PLAN DEVELOPMENT

The City of Cleveland Heights wanted to ensure the plan would be a reflection of neighborhood input as well as incorporating methods and strategies that would effectively calm traffic and manage parking in the neighborhood. As such, plan development included multiple steps to engage the neighborhood, including a neighborhood survey and two public meetings.

NEIGHBORHOOD SURVEY

As part of the plan development process, residents of the South of Cedar neighborhood were asked to complete a survey about the traffic and parking in their neighborhood. The survey was distributed to residents of Grandview Avenue, Bellfield Avenue, Delaware Drive, South Overlook Road and Harcourt Drive along with North Park residents within the study area. The on-line survey ran for four weeks, from August 6 through September 2, 2019. Survey questions focused on neighborhood concerns related to traffic and parking as well as specific input on parking issues/preference, and potential traffic management measures. Overall, the survey received 160 responses. Residents of Bellfield Avenue and Grandview Avenue provided the most responses with 33 each. 27 responses (17%) did not indicate their street of residence. Table 4 compares the number of parcels on each neighborhood street to the number of survey responses.

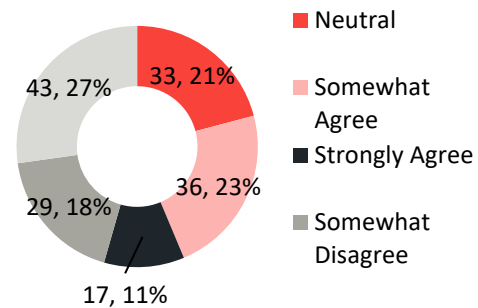
Table 4. Neighborhood Survey Participation Results

STREET	NUMBER OF UNITS	NUMBER OF DIFFERENT HOUSEHOLDS RESPONDING		RESPONSES	
Harcourt Drive	30	13	29%	15	52%
South Overlook Drive	96	21	22%	24	35%
Delaware Drive	66	25	38%	28	42%
Bellfield Avenue	137	21	15%	33	38%
Grandview Avenue	152	25	16%	33	40%

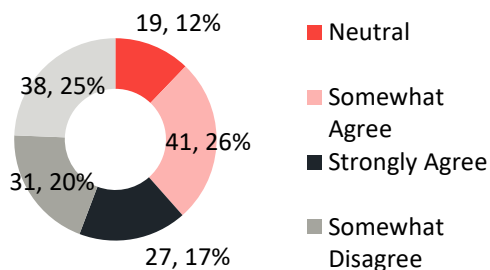
The survey questions were intended to gauge resident concerns related to parking, safety, and traffic behaviors. The results are summarized in the tables and figures below. In addition to answering the questions, respondents had the opportunity to leave additional comments. Common responses included: 1) Prevalence of speeding, 2) Overnight parking should be allowed, and 3) Current restricted turns are not being enforced.

Street	Agree	Disagree	Neutral
Bellfield	9	20	4
Harcourt	1	12	2
Grandview	14	9	9
Delaware	12	12	4
S. Overlook	8	9	6

Driveway Access - I have difficulty exiting my driveway



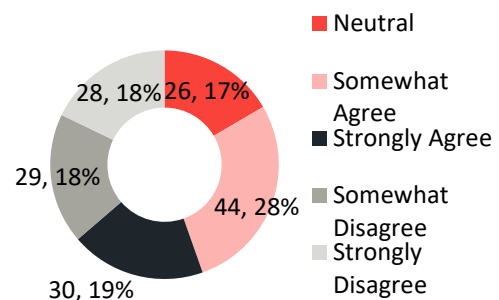
Driveway Access - Driveway access and being able to see traffic is impeded by parked cars



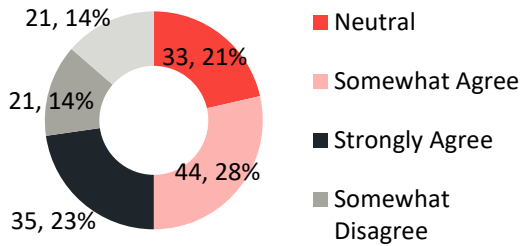
Street	Agree	Disagree	Neutral
Bellfield	12	19	2
Harcourt	2	11	1
Grandview	18	9	4
Delaware	15	8	5
S. Overlook	11	11	2

Street	Agree	Disagree	Neutral
Bellfield	15	17	1
Harcourt	2	12	1
Grandview	21	6	4
Delaware	16	5	7
S. Overlook	12	7	5

Parking - Lack of parking for my guests is an issue on my street



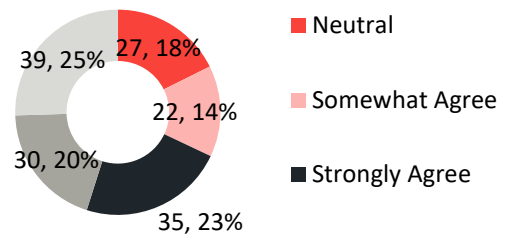
Safety - Bicycle safety is an issue on my street



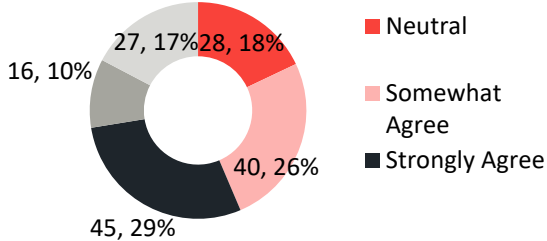
Street	Agree	Disagree	Neutral
Bellfield	7	16	10
Harcourt	7	5	3
Grandview	22	1	9
Delaware	25	0	3
S. Overlook	13	9	1

Street	Agree	Disagree	Neutral
Bellfield	4	24	5
Harcourt	6	8	1
Grandview	13	12	6
Delaware	19	6	3
S. Overlook	8	11	4

Safety - Pedestrian safety is an issue on my street



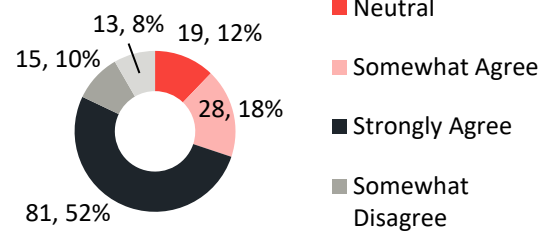
Traffic - Traffic volume is an issue on my street



Street	Agree	Disagree	Neutral
Bellfield	7	20	5
Harcourt	9	5	1
Grandview	17	7	8
Delaware	26	2	0
S. Overlook	13	6	5

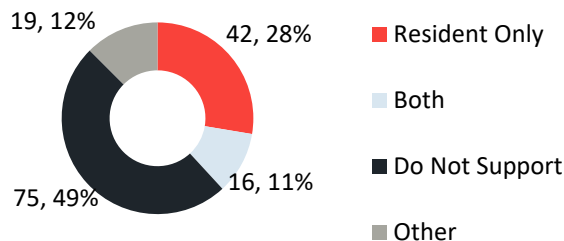
Street	Agree	Disagree	Neutral
Bellfield	12	15	5
Harcourt	14	0	1
Grandview	20	6	6
Delaware	28	0	0
S. Overlook	17	5	2

Traffic - Traffic speed is an issue on my street



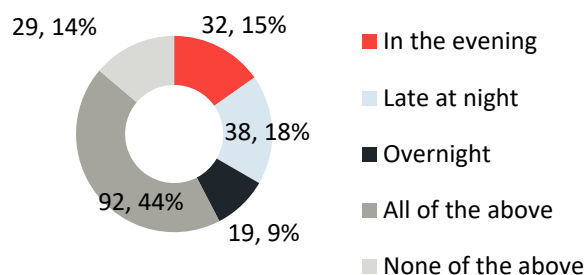
The following questions were asked to specifically understand parking issues and preferences. Common comments include respondents were not supportive of parking meters, support for residential (and guest) parking permits especially overnight residential permits, concerns about guest parking with residential parking permits, and concerns about costs of metered or permit parking options traffic management strategies using a ranking scale of 1 (least preferred) to 5 (most preferred).

Permits - Which of the following parking permit strategies do you support?



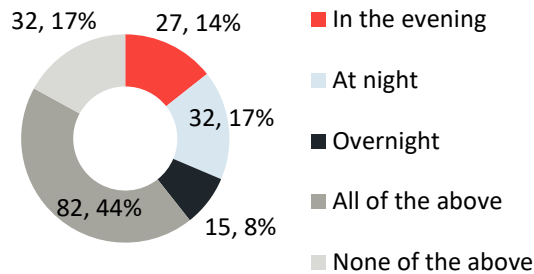
Street	Resident Only	Both	Do No Support
Bellfield	10	0	21
Harcourt	5	2	6
Grandview	7	4	15
Delaware	6	5	14
S. Overlook	8	3	7

Weekday Parking - I can almost always find a parking spot a short distance from my residence:



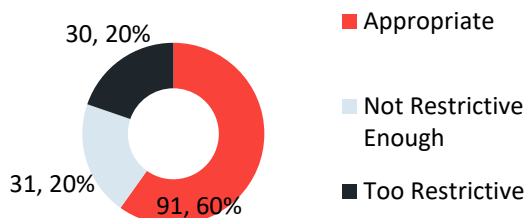
Street	Evening	Late Night	Over-Night	All the Above	None of the Above
Bellfield	7	10	4	18	5
Harcourt	5	5	0	9	0
Grandview	5	7	6	11	15
Delaware	4	5	4	16	4
S. Overlook	4	2	3	16	3

Weekend Parking - I can almost always find a parking spot a short distance from my residence:



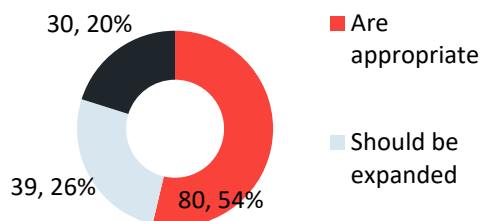
Street	Evening	Late Night	Over-Night	All the Above	None of the Above
Bellfield	9	13	7	20	7
Harcourt	6	5	0	9	0
Grandview	5	6	5	14	14
Delaware	6	6	3	17	2
S. Overlook	4	6	3	17	2

Regulations - Parking duration limits are:



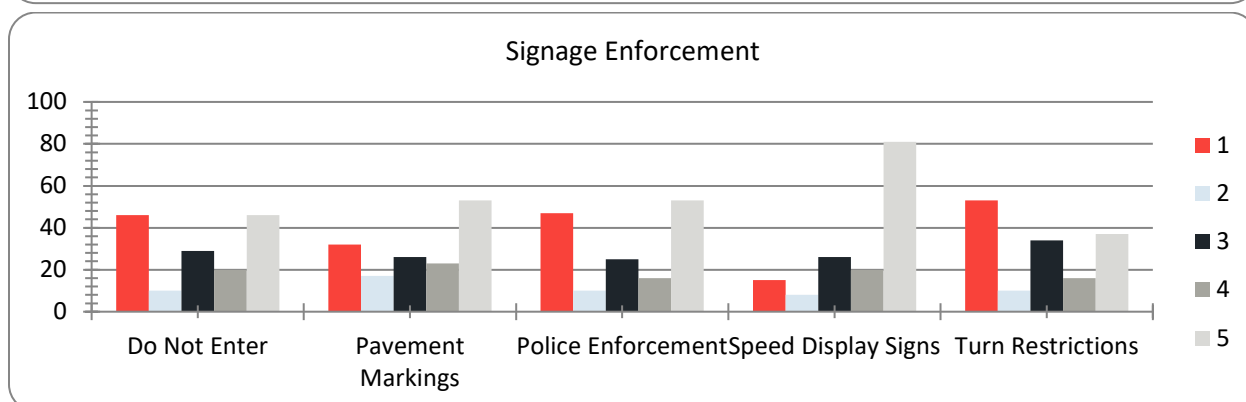
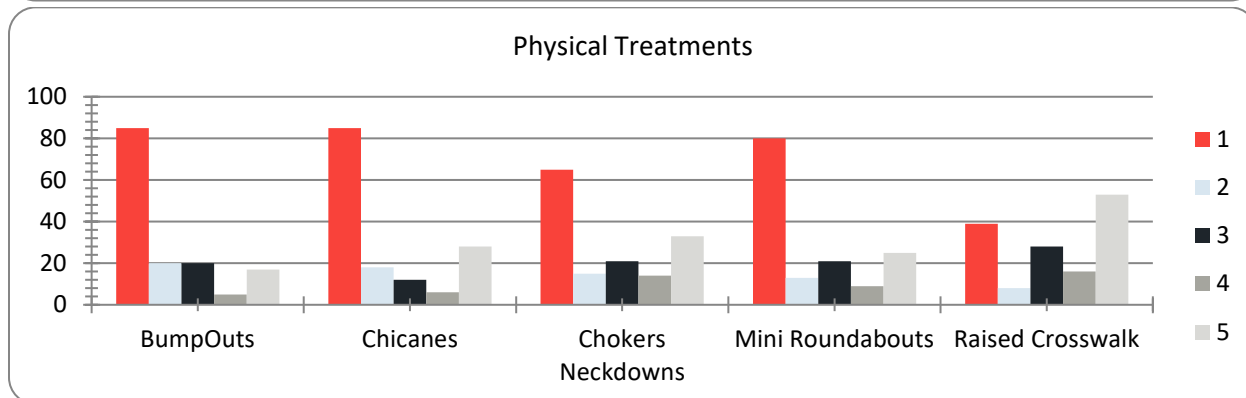
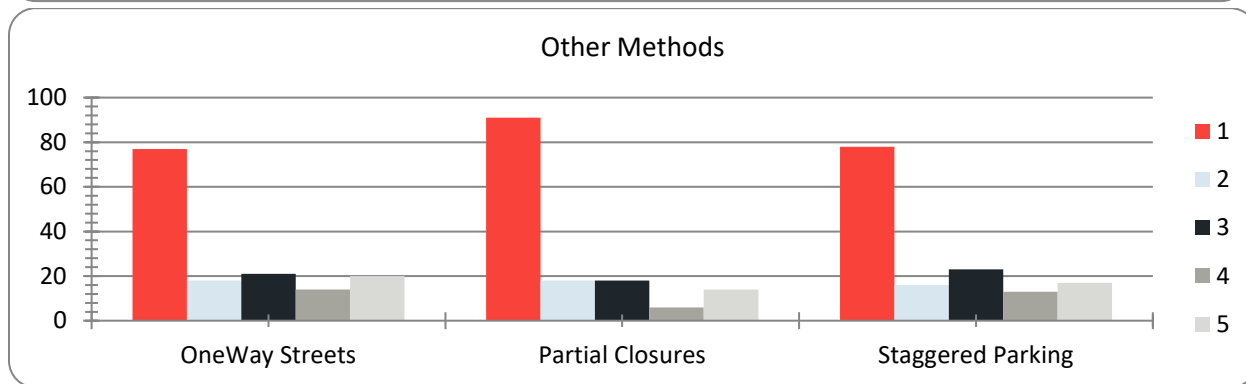
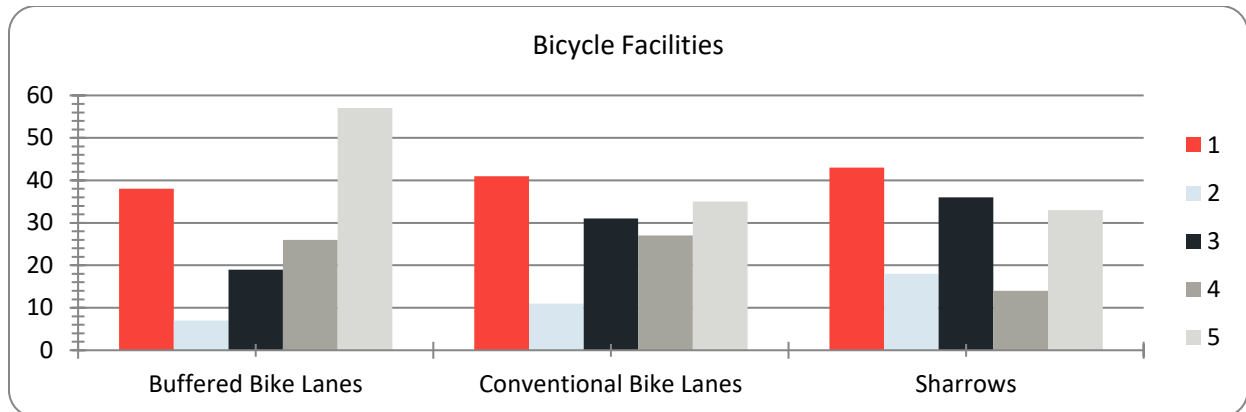
Street	Too Restrictive	Are Appropriate	Not Restrictive Enough
Bellfield	6	23	4
Harcourt	0	13	2
Grandview	12	13	6
Delaware	1	20	7
S. Overlook	8	9	7

Regulations - Current overnight parking zones:



Street	Should Expand	Are Appropriate	Should Reduce/Eliminate
Bellfield	9	20	4
Harcourt	1	12	2
Grandview	16	8	7
Delaware	0	22	6
S. Overlook	9	9	5

Residents were also asked to provide input on various types of roadway treatments based on a brief description of type and application. This was intended to obtain preliminary input from the residents with the understanding that a more in depth discussion of facility types and treatments would be part of the community meetings. Responses were scored by preference, with 5 as most preferred and 1 as least preferred.



PROJECT TEAM WORKSHOPS AND COMMUNITY INVOLVEMENT

The plan was developed based on the integration of project team workshops and community workshops which integrated neighborhood preferences with technical feasibility. Plan development was guided by the project team and community meetings were established to solicit input from the neighborhood. The workshops are summarized below.

Project Team Meeting #1 (June 5, 2019)

The project team reviewed and discussed the results of the traffic volume and speed data collection and the parking data collection. The project team also discussed a wide variety of potential traffic and parking treatments that could serve as a broad spectrum of options. The features and impacts were discussed to ascertain their viability for application in the South of Cedar neighborhood.

Project Team Meeting #2 (September 13, 2019)

The project team reviewed and discussed the results of the neighborhood survey. Discussion focused on neighborhood input and how to integrate the feedback into the plan.

Project Team Workshop #1 (September 23, 2019)

This workshop consisted of a review of the existing neighborhood conditions, data collection results and survey results. The traffic management and parking toolkits were reviewed, with a discussion of features, benefits, maintenance considerations and potential issues associated with each alternative. The list of potential feasible traffic and parking treatments and measures were identified. Early concepts were developed to be presented at the first community workshop.

Community Workshop #1 (October 16, 2019)

The project team began the workshop with a review of the plan development process with the residents, focusing on how their thoughts and feedback would be integrated into the plan and the implementation strategy which would include a test period with temporary treatments to ensure their effectiveness prior to permanent installation. The project team subsequently reviewed the results of traffic and parking data collection and associated analyses, the survey results, and an overview of the potential feasible traffic and parking treatments and measures. Attendees then formed individual groups for each street and were tasked with identifying preferred types and locations of traffic and parking treatments. The groups were able to develop more than one concept for their street, along with additional treatments for the Cedar and North Park intersections at the end of their street. The workshop concluded with representatives of each street working group presenting their recommendations.

Project Team Workshop #2 (October 22, 2019)

In the second internal workshop, the project team reviewed the results of Community Workshop #1 – the concepts and feedback from the neighborhood. They assessed the proposed alternatives for each street and developed recommendations to be presented to the neighborhood as part of the second community workshop.

Community Workshop #2 (October 30, 2019)

The second community workshop began with a recap of the first community workshop, including a review of traffic and parking data collection and analyses, the community survey, and the community traffic and parking recommendations, implementation plans and schedule that were developed during

Community Workshop #1. Residents were asked to provide input on the recommendations for each street along with considerations for treatments along Cedar Road and North Park Boulevard. Residents were able to vote on the recommended traffic mitigation and parking strategies they would like to see on their street. The results of the resident voting are included in Table 5.

Table 5. Community Meeting #2 Resident Input Results

(This table summarizes resident input and does not necessarily reflect plan recommendations.)

STREET	PARKING PREFERENCES	TRAFFIC MANAGEMENT PREFERENCES
Grandview	<p>Space Delineation</p> <ul style="list-style-type: none"> Slight preference for on-street marking City preference can govern <p>South End</p> <ul style="list-style-type: none"> Retain overnight parking <p>North End</p> <ul style="list-style-type: none"> No overnight parking (unanimous) Implement Residential Permit Parking Allow on-street parking by Dave's 	<p>North End</p> <ul style="list-style-type: none"> Mixed between Partial Closure (slight majority, includes all Grandview votes) and No Treatment Suggest Partial Closure trial period & evaluation; can compare to Bellfield Choker/Neckdown <p>Mid-Block</p> <ul style="list-style-type: none"> Speed Table <p>Cecil Intersection</p> <ul style="list-style-type: none"> Mini-Circle <p>Additional Treatments</p> <ul style="list-style-type: none"> Some support for Speed Advisory Signs Mixed results for West St James closure; suggest trial period & evaluation General support for Bollards for North Park Bicycle Lanes Reconstruct curbs
Bellfield	<p>Space Delineation</p> <ul style="list-style-type: none"> Slight preference for No Treatment City preference can govern <p>South End</p> <ul style="list-style-type: none"> Retain Overnight Parking <p>Cecil Intersection</p> <ul style="list-style-type: none"> Extend no parking zone for sight distance <p>North End</p> <ul style="list-style-type: none"> No overnight parking No Residential Permit Parking No on-street parking north of new parking lot driveway 	<p>North End</p> <ul style="list-style-type: none"> Partial closure preferred by Bellfield residents Choker/Neckdown preferred by others Suggest Choker/Neckdown trial period & evaluation; compare to Grandview Partial Closure <p>Mid-Block</p> <ul style="list-style-type: none"> Speed Table <p>Cecil Intersection</p> <ul style="list-style-type: none"> Mini-Circle <p>Additional Treatments</p> <ul style="list-style-type: none"> Speed Advisory Signs Mixed results for West St James closure; suggest trial period & evaluation Support for Bollards for North Park Bicycle Lanes Reconstruct curbs
Delaware	<p>Space Delineation</p> <ul style="list-style-type: none"> No Treatment <p>North End</p> <ul style="list-style-type: none"> Split for/against allowing overnight parking Against Residential Permit Parking 	<p>North End</p> <ul style="list-style-type: none"> Majority No Treatment Some support for Choker/Neckdown <p>Mid-Block</p> <ul style="list-style-type: none"> Strong preference for speed table Some support for Chicanes and Choker/Neckdown Could test non-speed table option on Delaware Chicane impacts parking; might be ok on Delaware

STREET	PARKING PREFERENCES	TRAFFIC MANAGEMENT PREFERENCES
	<ul style="list-style-type: none"> • Apparent preference for No Treatment 	<p>Cecil Intersection</p> <ul style="list-style-type: none"> • Strong preference for No Treatment • Some support for All-Way Stop <p>Additional Treatments</p> <ul style="list-style-type: none"> • Split for/against Speed Advisory Signs (all No votes are Delaware residents) • Reduce Curb Radius at North Park • Bollards for North Park Bicycle Lanes • Reconstruct curbs
South Overlook	<p>Space Delineation</p> <ul style="list-style-type: none"> • Slight preference for No Treatment • Some support for Paint Curb <p>North End</p> <ul style="list-style-type: none"> • No Overnight Parking • Even split for Residential Permit Parking • Could consider trial period for Residential Permit Parking program 	<p>North End</p> <ul style="list-style-type: none"> • No Treatment <p>Mid-Block</p> <ul style="list-style-type: none"> • South Overlook resident preference for No Treatment • Others prefer speed table • Option 1: Speed table trial period since South Overlook residents expressed concern about peak hour cut-through traffic • Option 2: No Treatment since speed tables will be tested on other streets <p>Cecil Intersection</p> <ul style="list-style-type: none"> • Even split between Mini-Circle and No Treatment • Suggest Mini-Circle test if no mid-block treatment, otherwise No Treatment <p>Additional Treatments</p> <ul style="list-style-type: none"> • Support for Speed Advisory Signs • Support for Bollards for North Park Bicycle Lanes • Reconstruct curbs
Harcourt	<p>Space Delineation</p> <ul style="list-style-type: none"> • No votes recorded • Suggest No Treatment <p>North End</p> <ul style="list-style-type: none"> • No overnight parking • No Residential Permit Parking 	<p>North End</p> <ul style="list-style-type: none"> • Unanimous support for channelization island <p>Mid-Block</p> <ul style="list-style-type: none"> • Strong preference for no treatment <p>Chestnut Hill & Denton Intersections</p> <ul style="list-style-type: none"> • Split between Mini-Circle and No Treatment • Suggest Mini Circle trial period & evaluation <p>Additional Treatments</p> <ul style="list-style-type: none"> • Split vote for/against Speed Advisory Signs • Unanimous support for Reduce Curb Radius at North Park • Strong support for Bollards for N. Park Bike Lanes • Reconstruct curbs

Project Team Workshop #3 (December 5, 2019)

The project team reviewed the results and outcomes from Community Workshop #2 to finalize the recommendations for the South of Cedar neighborhood traffic and parking management plans.

RECOMMENDATIONS

The plan recommendations were finalized at Project Team Workshop #3, integrating community input and preferences with technical feasibility, consistent with the methodology followed throughout the planning process. The recommendations are summarized below.

PARKING

Grandview

The following parking changes are recommended for Grandview Avenue:

1. Permit on-street parking on the east side of Grandview to the north of Dave's parking lot south entrance with these restrictions:
 - a. 2:00PM-Midnight: 2-hour Parking
 - b. Midnight-2:00PM: Truck Loading Zone/No Parking
2. Implement a Residential Parking Permit program on the east side of Grandview between Dave's parking lot south entrance and Cecil, pending the results of neighborhood acceptance survey.
 - a. 9:00PM-6:00AM: Residential Parking Permit
 - b. 6:00AM-9:00PM: Unrestricted parking
3. No change from existing parking policy on the west side of Grandview (no parking).

Bellfield

The following parking changes are recommended for Bellfield Avenue:

1. Extend the No Parking zone on the east side of Bellfield by Cecil to improve sight distance for southbound vehicles on Cecil (relocate existing signs)
2. Implement parking restriction on the east side of Bellfield to the north of the new parking lot entrance with these restrictions:
 - a. 6:00AM-Midnight: 2-hour Parking
 - b. Midnight-06:00AM: No Parking
3. Implement a Residential Parking Permit program on the east side of Bellfield between the new parking lot entrance and Cecil, pending the results of neighborhood acceptance survey.
 - c. 9:00PM-6:00AM: Residential Parking Permit
 - d. 6:00AM-9:00PM: Unrestricted parking
4. No change from existing parking policy on the west side of Bellfield (no parking).

Delaware, South Overlook and Harcourt

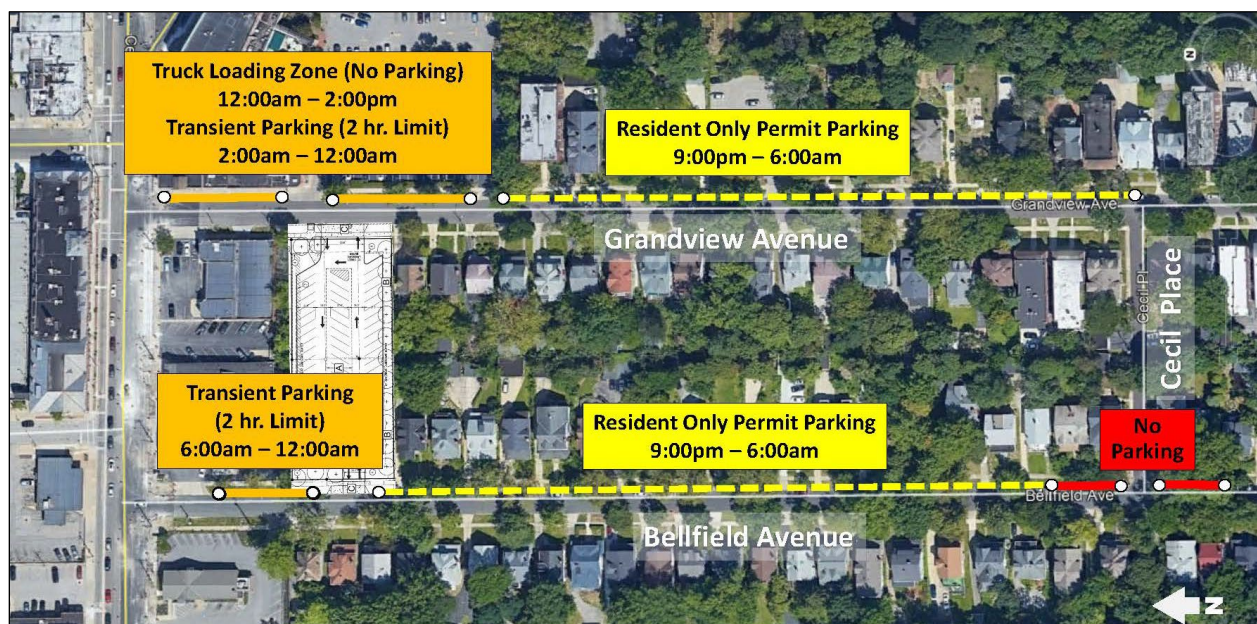
Make no changes to the current parking policies on Harcourt Drive, South Overlook Road and Delaware Drive. Parking utilization on these streets is low and most participating residents did not want the current policies to be changed.

Figure 24 illustrates the proposed parking recommendations. Implementation of a Residential Parking Permit program requires passage of a neighborhood acceptance survey prior to implementation. The survey would require 50% participation of the street with a minimum of 50% support from survey participants. If a survey is administered and receives the required support, the Residential Parking Permit program will be implemented on a trial basis with additional assessment conducted prior to

potential permanent implementation. With a Residential Parking Permit program, residents would be able to contact Cleveland Heights Police for guest parking exemptions on a case by case basis.

In addition to the changes in parking policy recommended for Grandview and Bellfield Avenues, it is also recommended to define the limits of on-street parking to mitigate blocking and/or crowding of driveways by vehicles parked on-street. Defining the parking zones will provide residents with better sight distance and maneuverability when exiting their driveways. The specific method of delineation will be determined by City staff.

Figure 24. Recommended Parking Policy Changes



TRAFFIC

The traffic management recommendations are divided into four phases:

Immediate Action

Plant trees in tree lawn along the west side of Grandview and Bellfield Avenues, where feasible, to limit observed behaviors of southbound vehicles driving along the grass to effectively widen the traveled way and enabling faster travel speeds.

Phase 1

Phase 1 is intended as a three- to six-month trial period to test the recommendations and observe their performance. Data would be collected to assess performance, enabling assessment of the treatment and development of potential modifications, if appropriate. Phase 1 treatments are intended to be implemented utilizing the NOACA Street Supplies program.

Phase 2

Phase 2 represents permanent installation following the review of Phase 1 implementations and monitoring of traffic conditions. Recommendations would be permanently implemented if they are justified by data collected and observations made during phase 1 along with neighborhood support.

Future Improvements

The future improvements recommendations are intended for the City of Cleveland Heights to consider in their long-range planning.

Table 6 provides an overview of the traffic management recommendations for each street. Implementation of speed tables, although preferred by residents of multiple streets, is limited by the supplies available in the NOACA Street Supplies program (maximum of two speed tables). As such, implementation of speed tables is confined to Grandview as speed tables do not impact parking capacity and Grandview is the most densely parked street. The recommendations are illustrated in Figure 16, Figure 17, and Figure 18.

Table 6. Traffic Management Recommendations

STREET	PHASE 1	PHASE 2	FUTURE IMPROVEMENTS
Grandview	<p>Immediate Action</p> <ul style="list-style-type: none"> - Plant trees in tree lawn, west side <p>Mid-block speed tables</p> <ul style="list-style-type: none"> - One on each block - Location TBD (adjust with treatment at Cecil) - Will not impact on-street parking capacity <p>Prohibit westbound left from Cedar Road during PM peak periods on weekdays.</p> <p>Close West St. James between North Park/Bellfield and Grandview.</p>	<p>Partial closure at north end (choker or neckdown, TBD)</p> <p>Mini-circle at Cecil</p> <p>Speed advisory signs</p>	<p>Reconstruct curbs that have diminished over multiple paving cycles.</p>
Bellfield	<p>Choker/neckdown</p> <ul style="list-style-type: none"> - One on each block - Location TBD (adjust with treatment at Cecil) - Will impact on street parking capacity <p>Reduce northeast corner radius at North Park.</p> <p>Close West St. James between North Park/Bellfield and Grandview.</p>	<p>Mini-circle at Cecil</p> <p>Speed advisory signs</p> <p>Prohibit northbound left and westbound left at Cedar Road Intersection during PM Peak on weekdays.</p>	<p>Reconstruct curbs that have diminished over multiple paving cycles.</p>
Delaware	<p>Chokers or chicanes</p> <ul style="list-style-type: none"> - Two sets, one on each block north and south of Cecil - Will impact on-street parking capacity 	<p>Treatment at Cecil intersection (potential all-way stop)</p>	<p>Reconstruct curbs that have diminished over multiple paving cycles.</p>

STREET	PHASE 1	PHASE 2	FUTURE IMPROVEMENTS
	Prohibit northbound left on to Cedar Road during AM and PM peak periods on weekdays.	Prohibit westbound left from Cedar Road during PM peak on weekdays.	
South Overlook	Chicanes <ul style="list-style-type: none"> - Two sets, one on each block north and south of Cecil - Will impact on-street parking capacity Reduce curb radius on SW corner of South Overlook/Cedar intersection. Reduce northeast corner radius at North Park.	Treatment at Cecil intersection (potential all-way stop or choker)	Reconstruct curbs that have diminished over multiple paving cycles.
Harcourt	Channelization island at north end (Cedar intersection) See Figure 25. <ul style="list-style-type: none"> - Incorporate safe integration of Harcourt traffic at TOH intersection - Prevent illegal through movement from Harcourt Choker / Neckdown <ul style="list-style-type: none"> - At Chestnut Hills - At Denton - Will impact on-street parking capacity Reduce northwest and northeast corner radii at North Park.	Chicanes or speed tables at Chestnut Hills & Denton <ul style="list-style-type: none"> - Pending results of Phase 1 throughout neighborhood Install speed advisory signs	Reconstruct curbs that have diminished over multiple paving cycles.
North Park	Test bollards for bike lanes using candlestick barrels during Phase 1. Retain no left turn prohibitions for cross streets. Test corner radii reductions as mentioned on neighborhood streets.	Install eastbound speed advisory signs.	N/A
North Overlook	Channelization island at Cedar intersection. See Figure 17.	N/A	N/A
Cedar Glen Parkway	Install 25 mph speed zone ahead sign on eastbound approach to Top-of-Hill intersection.	N/A	N/A
Top-of-Hill Access Drive	Prohibit southbound left turn during PM peak period on weekdays.	Prohibit southbound left turn during AM & PM peak period on weekdays.	N/A
Lennox	Prohibit southbound left turn.	N/A	N/A

Figure 25. Harcourt Channelization Island



Figure 26. North Overlook Channelization Island

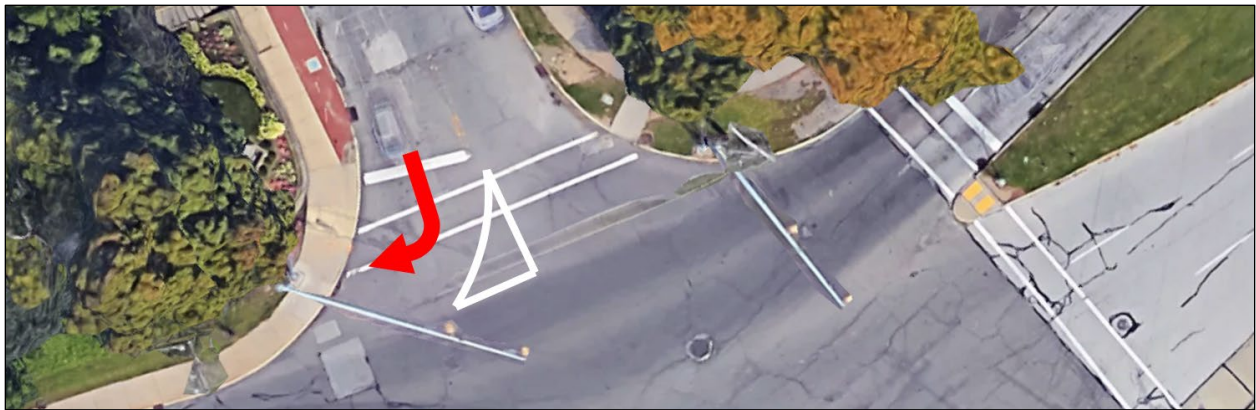
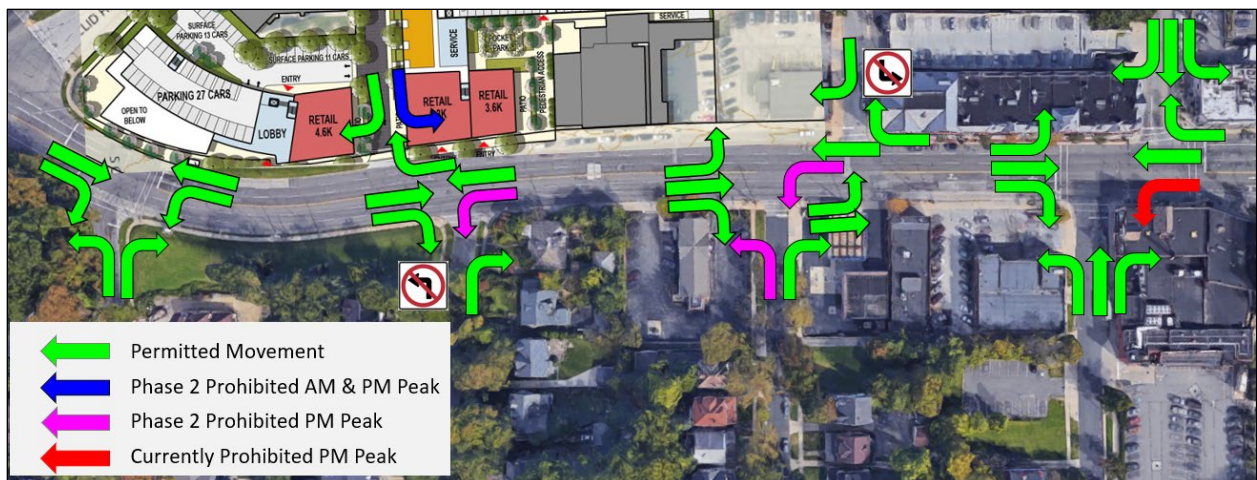


Figure 27. Cedar Road Recommended Modifications



IMPLEMENTATION STRATEGY

As discussed within the traffic recommendations section above, the implementation strategy consists of four phases

- Immediate Action
- Phase 1, Temporary Treatments (testing)
- Phase 2, Permanent Installation
- Future Improvements

Phase 1, temporary treatments, will utilize the Northeast Ohio Areawide Coordinating Agency (NOACA) Street Supplies program to provide and install the proposed recommendations. Street Supplies is a program designed to help communities within the NOACA MPO area discover innovative approaches to road design for all roadway users. It is a library of roadway materials for communities to borrow, test, review, and return. Utilizing the temporary materials allows communities to gather public input on proposed design and evaluate solutions before permanent construction. The program is funded by a grant from the Ohio Department of Transportation and the Ohio Department of Health.

The temporary treatments should be left in place a minimum of three to four months. This will provide an opportunity for behaviors to normalize within the neighborhood. Following the test period, performance of the temporary treatments should be assessed via data collection and a neighborhood survey. The data analysis will compare before and after data to evaluate the effectiveness of each treatment. The survey will provide residents with an opportunity to share their thoughts and opinions on the various treatments. Furthermore, field observations and crash data should be assessed along Cedar to determine whether it would be appropriate to implement the more restrictive turn prohibitions.

Phase 2, permanent installation, will integrate the assessment of the temporary treatments and make appropriate adjustments prior to permanent installation.

The phased approach to implementation is intended to build an understanding of how the treatments will function, measure their success based on before and after data, and adjust treatments, as appropriate, prior to final, permanent implementation.

APPENDIX A

RECOMMENDATIONS PRESENTATION



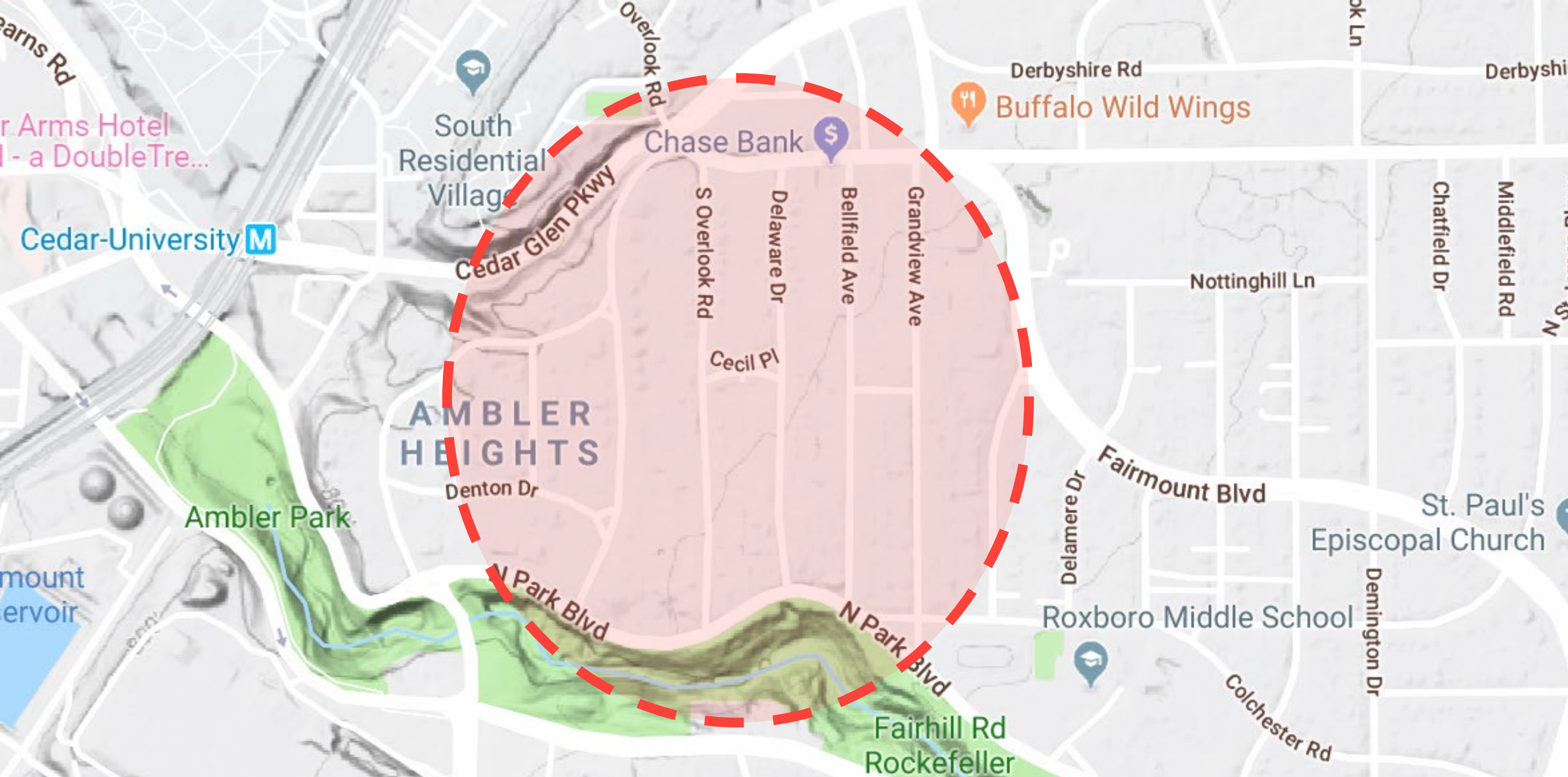
CLEVELAND
HEIGHTS

Implementation Strategy **Recommendations**

South of Cedar Neighborhood
Traffic & Parking Management



April 2020



South of Cedar Neighborhood

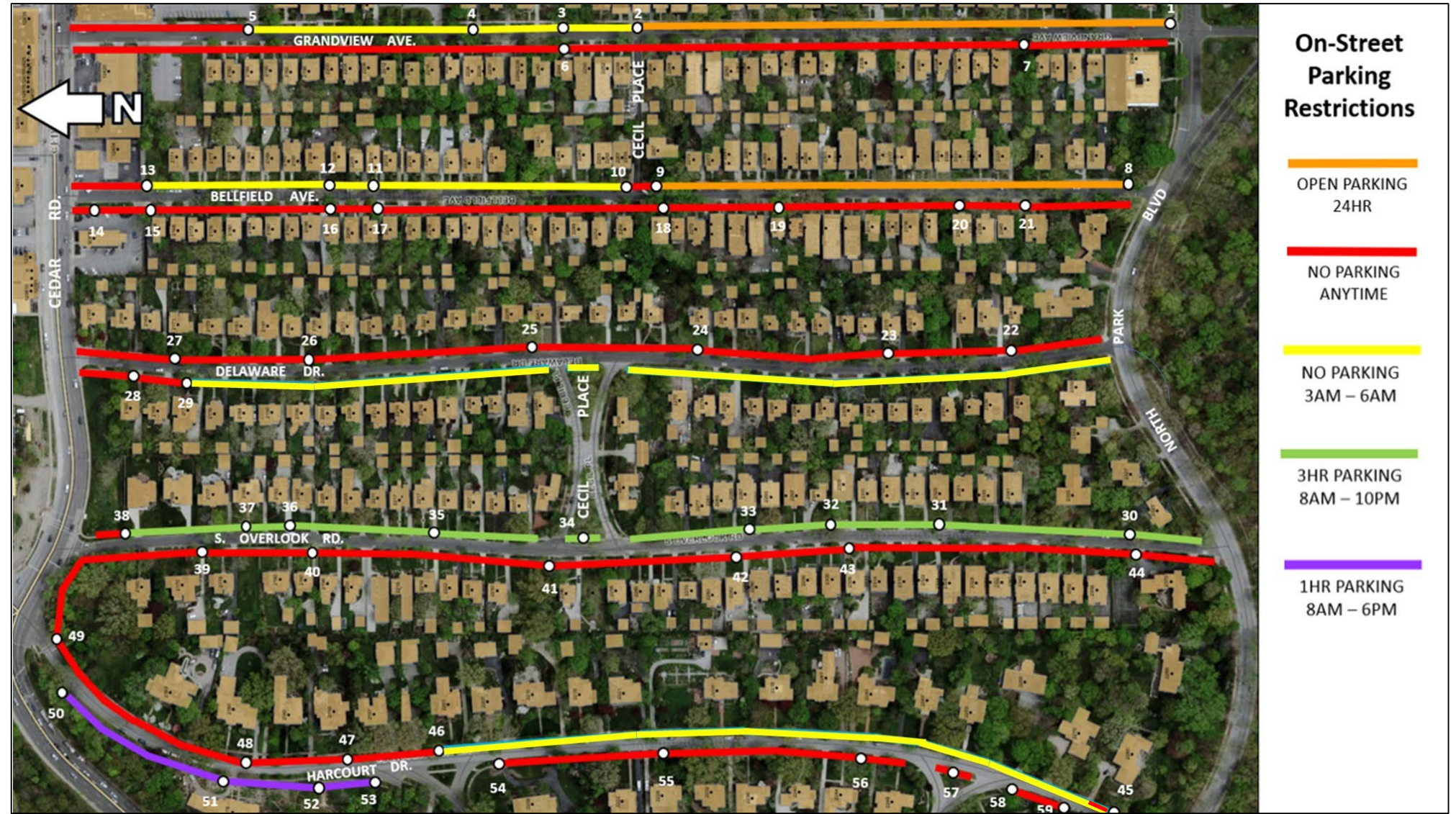


CLEVELAND
HEIGHTS



PARKING





Existing On-Street Parking Restrictions



Grandview

Parking Preferences

Workshop 2 neighborhood input

-  Overnight Parking Permitted
-  Overnight Parking with Residential Permit
(otherwise No Parking 3:00am-6:00am)
-  On-Street Parking Permitted During Defined Hours
-  No On-Street Parking

Space delineation

- Provide space delineation for Grandview driveways
- City preference will govern type of pavement marking

South of Cecil

- Retain overnight parking

North of Cecil

- No overnight parking
- Implement Residential Permit Parking (9:00pm-6:00am)
(if validated by resident survey)
- Allow on-street parking by Dave's (2 hr parking 2:00pm-Midnight)



Bellfield

Parking Preferences

Workshop 2 neighborhood input

- Overnight Parking Permitted
- Overnight Parking with Residential Permit
(otherwise No Parking 3:00am-6:00am)
- On-Street Parking Permitted During Defined Hours
- No On-Street Parking

Space delineation

- Provide space delineation for Bellfield driveways
- City preference will govern type of pavement marking

South of Cecil

- Retain overnight parking

Cecil/Bellfield Intersection

- Extend No Parking zone for improved sight distance

North of Cecil

- No overnight parking
- Implement Residential Permit Parking (9:00pm-6:00am)
(if validated by resident survey)
- On-street parking north of new parking lot driveway
(2 hr parking 6:00am-Midnight)



Delaware

Parking Preferences

Workshop 2 neighborhood input

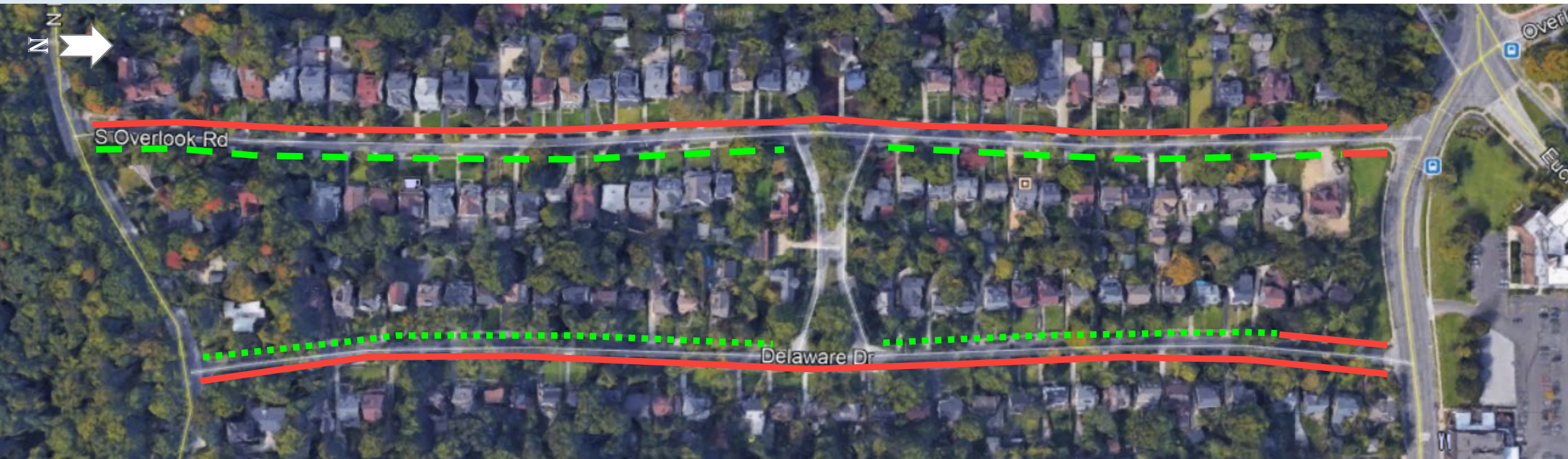
- No Parking 3:00am-6:00am
- No On-Street Parking

Space delineation

- No treatment

On-Street Parking

- No change
- No Residential Permit Parking
(if validated by resident survey)



South Overlook

Parking Preferences

Workshop 2 neighborhood input

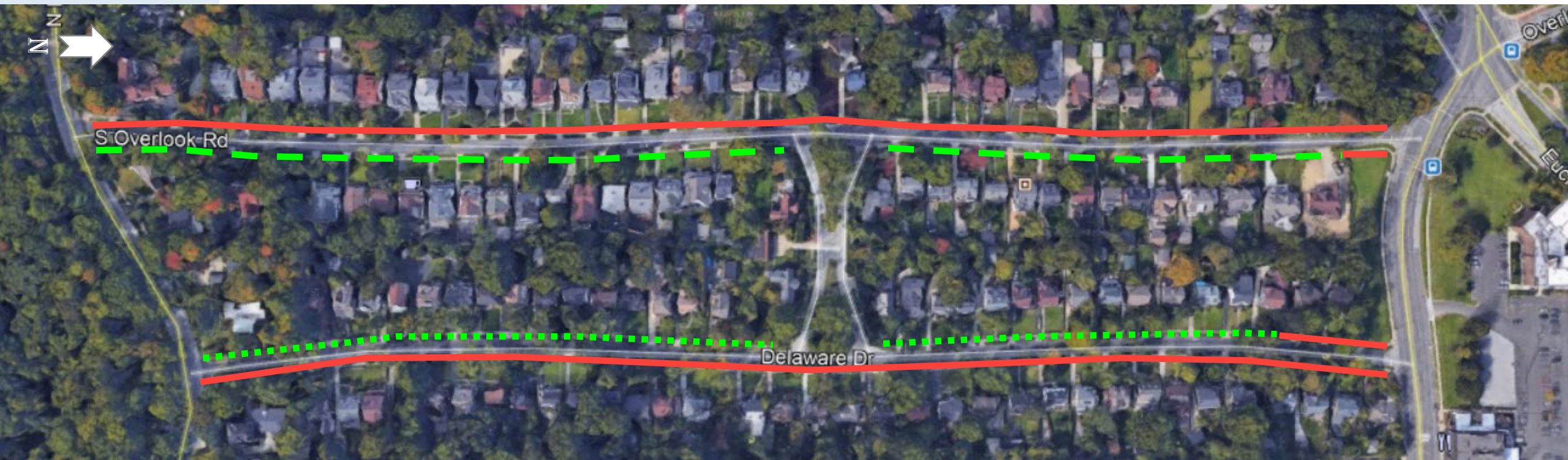
- No Parking 3:00am-6:00am
- 3 hr Parking 8:00am-10:00pm
Implement RPP if validated by resident survey
- No On-Street Parking

Space delineation

- No treatment

On-Street Parking

- No change
- Implement Residential Permit Parking
(if validated by resident survey)



Harcourt

Parking Preferences

Workshop 2 neighborhood input

- No Parking 3:00am-6:00am
- . - . 1 hr Parking 8:00am-6:00pm
- No On-Street Parking

Space delineation

- No treatment

On-Street Parking

- No change
- No overnight parking
- No Residential Permit Parking



PARKING RECOMMENDATIONS

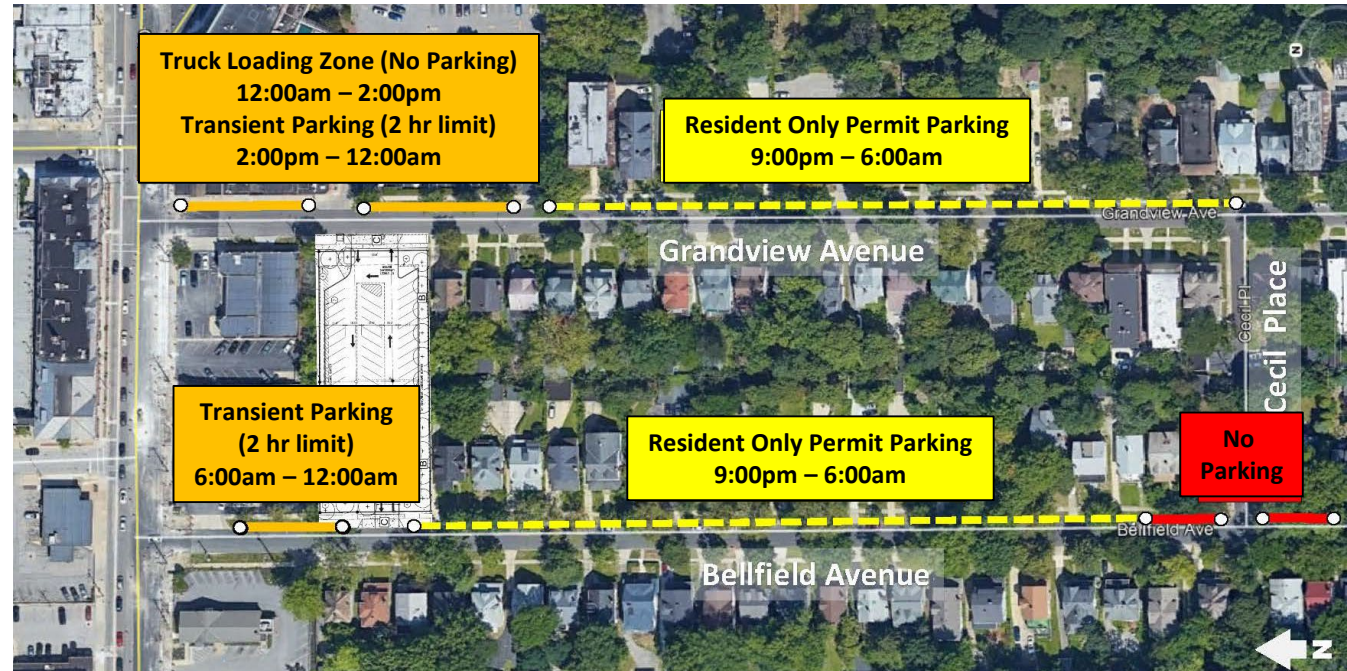
Residential Parking Permit Zones

- Grandview and Bellfiled only
 - Between Cecil and Cedar (as defined by street)
 - 9:00PM-6:00AM: Residential Parking Permit in effect
 - Pending results of neighborhood acceptance survey
- Neighborhood Acceptance Survey (required)
 - Allow for each streets to decide
 - Mailer/email for yes/no vote
 - Require $\geq 50\%$ participation with $\geq 50\%$ support
- Residents contact police for guest parking exemption(s)
- Conduct for trial period
 - Prorated permit cost
 - Post-trial period assessment prior to permanent implementation

PARKING RECOMMENDATIONS

Implementation of Changes in Parking Zones

- Warning period for 4 weeks after implementation
 - Chief Mecklenburg will design a warning ticket (one does not exist)
 - Duration of warning period TBD



PARKING RECOMMENDATIONS

On-Street Parking Delineation

- Grandview and Bellfield only
- Delineate stalls between driveways
 - Use Option 1 or Option 2 (as shown below) or curb painting outside driveway edged (prohibition zones)
 - Optimize space count based on +20 ft stalls
 - Coordinate with Cleveland Heights Engineering for delineation method
- Implementation trial using NOACA street supplies (tape)





CLEVELAND
HEIGHTS



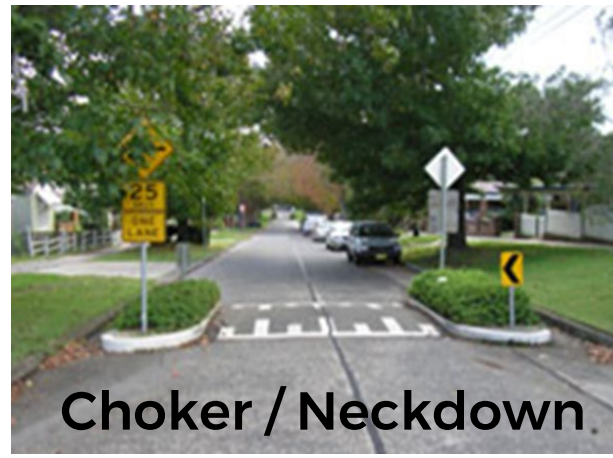
TRAFFIC



Bollards



**Close west block of
W. St. James**



Choker / Neckdown



Chicanes



Speed Table



Partial Road Closure

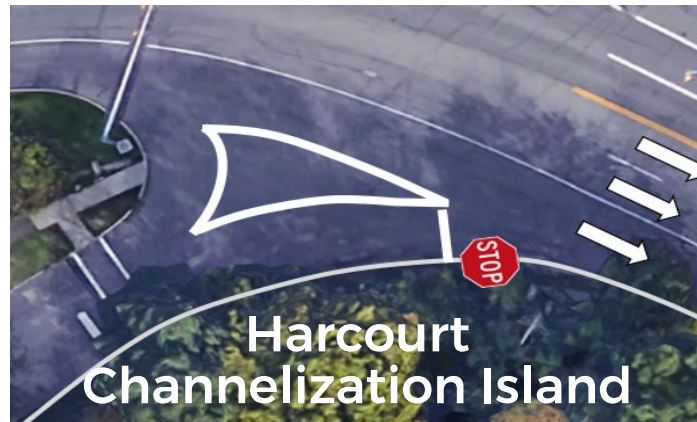


Mini Roundabout



**Speed
Display
Sign**

**Traffic Speed &
Traffic Safety
Mitigation
Measures**



**Harcourt
Channelization Island**



Curb Radius Improvements

GRANDVIEW RECOMMENDATIONS

Immediate Action

- Plant trees in tree lawn, west side

Phase 1

- Mid-block speed tables
 - One on each block
 - Location TBD (adjust with treatment at Cecil)
 - Will not impact on-street parking capacity
- Close West St James between North Park/Bellfield and Grandview
- Prohibit WB left from Cedar, PM peak

Phase 2

- Partial closure at north end (or choker/neckdown, TBD)
- Mini-circle at Cecil
- Speed advisory signs

Future Improvements

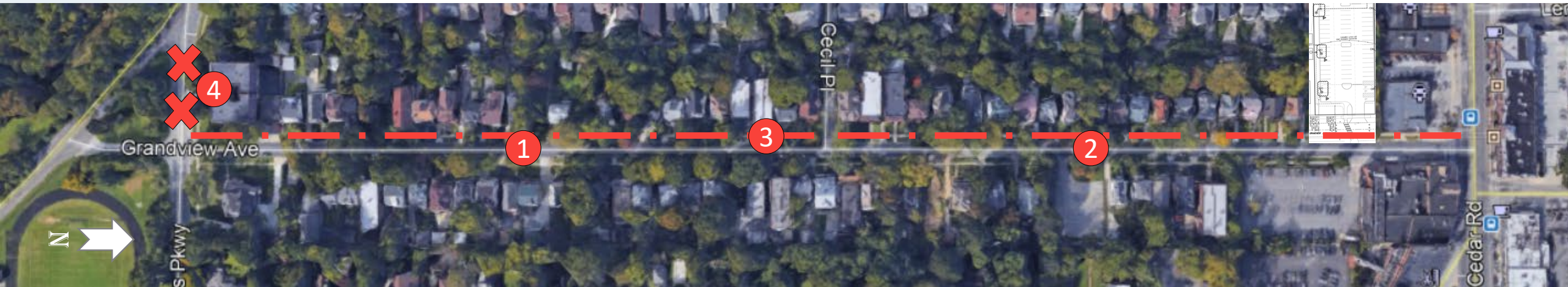
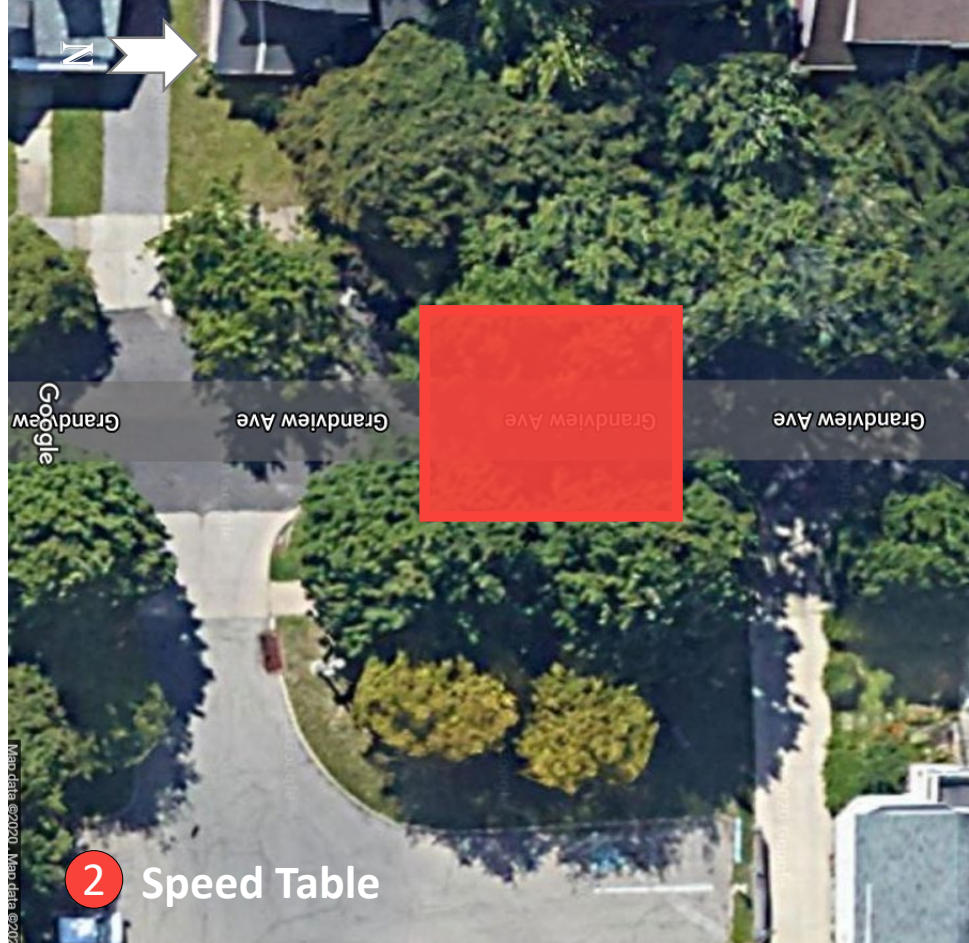
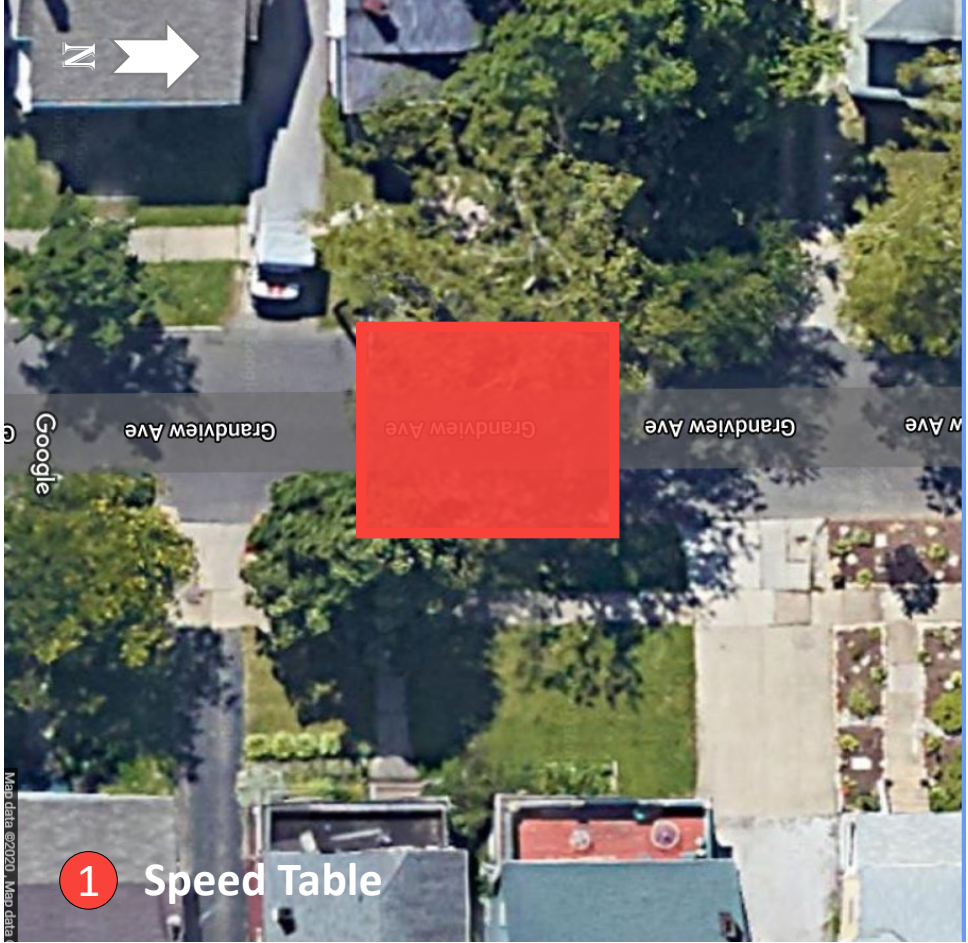
- Reconstruct curbs , if feasible without damaging trees



Grandview

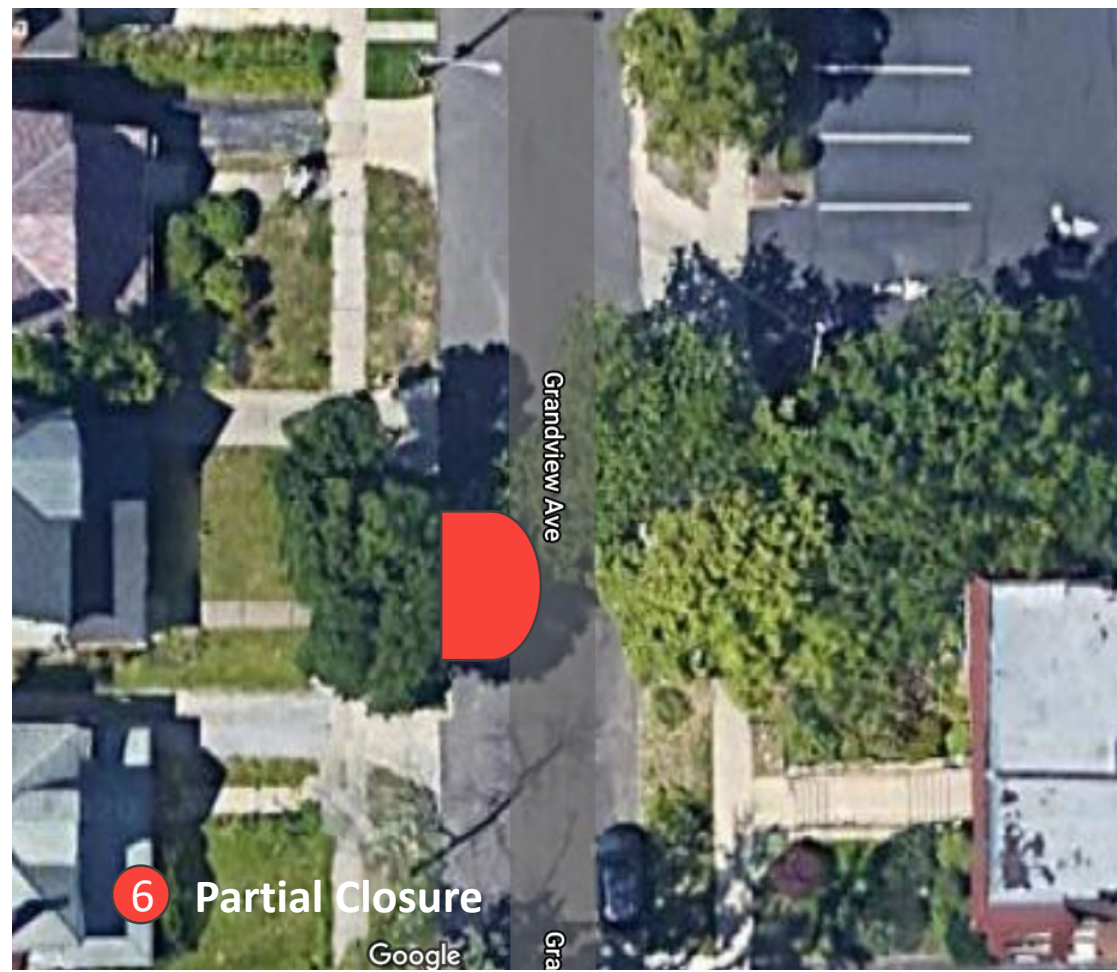
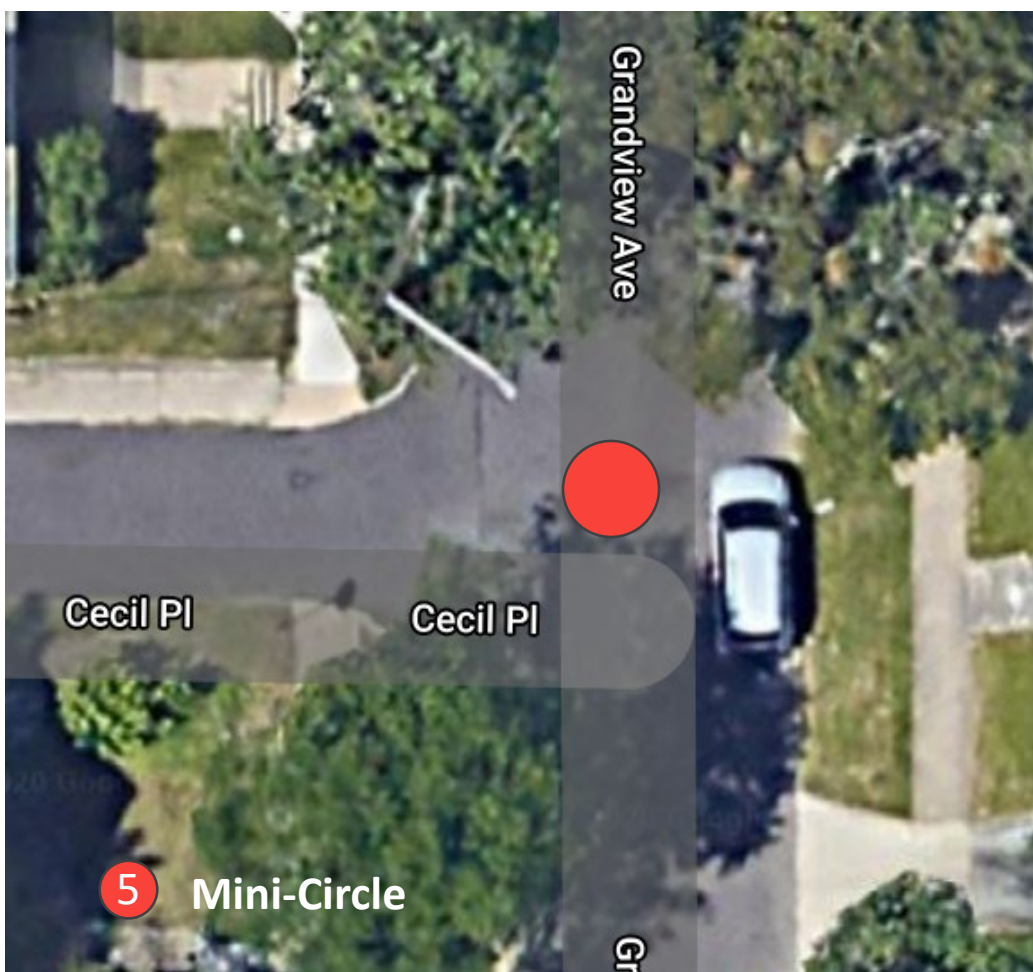
Phase 1

- 1. Speed Table south of Cecil
- 2. Speed Table north of Cecil
- 3. Trees in west tree lawn
- 4. Close West St James (Grandview to Bellfield)



Grandview

Phase 2



BELLFIELD RECOMMENDATIONS

Phase 1

- Choker/neck-down
 - One on each block
 - Location TBD (adjust with treatment at Cecil)
 - Will impact on-street parking capacity
- Reduce northeast corner radius at North Park
- Close West St James between North Park/Bellfield and Grandview

Phase 2

- Mini-circle at Cecil
- Speed advisory signs
- Prohibit NB left and WB left at Cedar, PM Peak on weekdays.

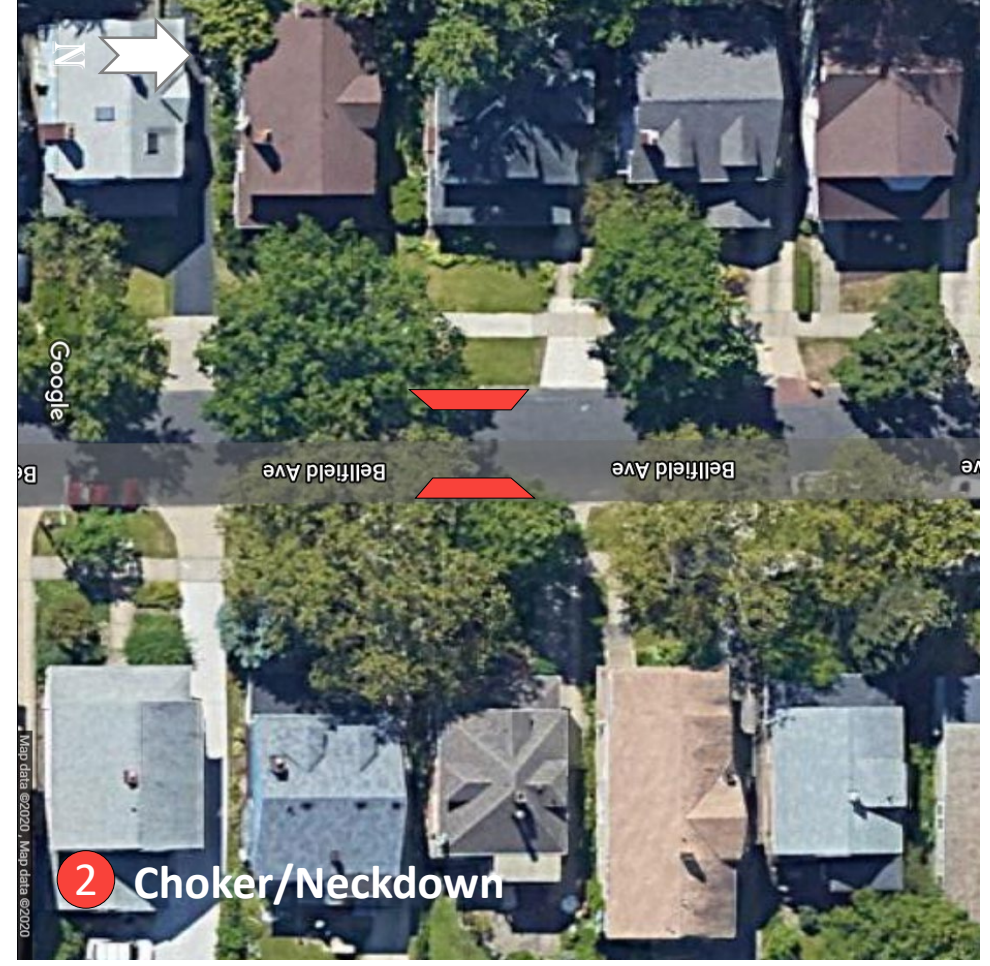
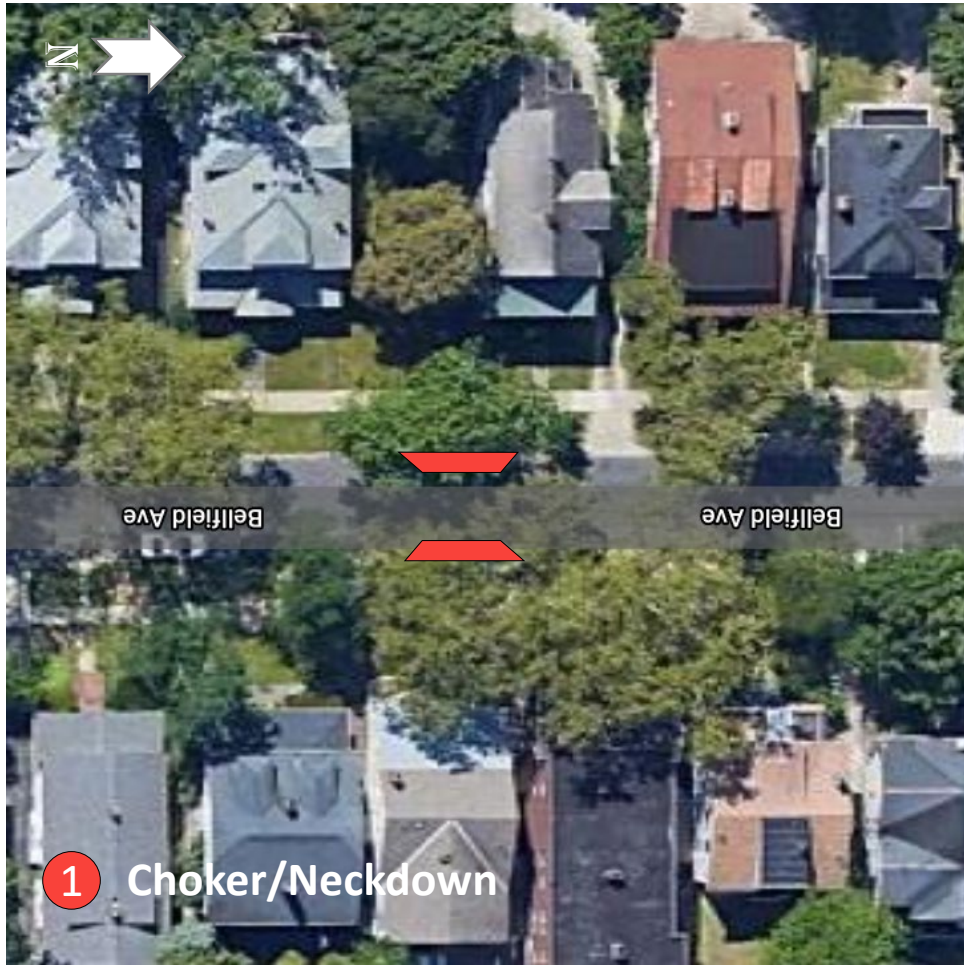
Future Improvements

- Reconstruct curbs , if feasible without damaging trees



Bellfield

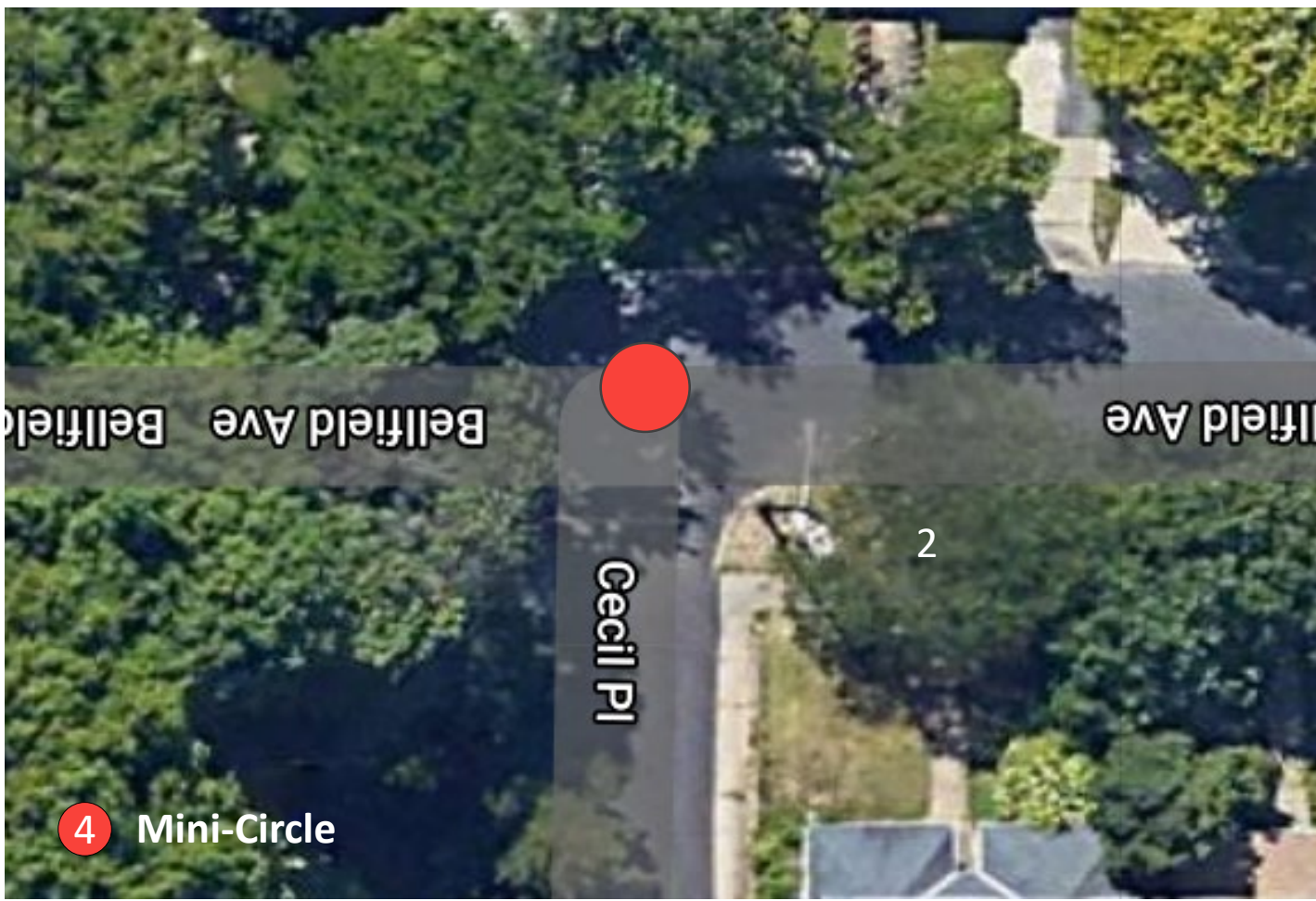
Phase 1



Bellfield

Phase 2

- 4. Mini-Circle at Cecil
- 5. Speed Advisory Sign
- 6. Prohibit NB left and WB left at Cedar



DELAWARE RECOMMENDATIONS

Phase 1

- Chicanes or chokers/neckdowns
 - Two sets, one on each block north and south of Cecil
 - Will impact on-street parking capacity
- Prohibit NB left at Cedar, AM and PM peaks on weekdays

Phase 2

- Treatment at Cecil intersection (potential all-way stop)
- Prohibit WB left at Cedar, PM Peak on weekdays

Future Improvements

- Reconstruct curbs , if feasible without damaging trees



Delaware

Phase 2

- 4. Treatment at Cecil (all-way stop)
- 5. Prohibit WB left at Cedar



S.OVERLOOK RECOMMENDATIONS

Phase 1

- Chicanes
 - One on each block
 - Will impact on-street parking capacity
- Reduce northeast corner radius at North Park

Phase 2

- Treatment at Cecil intersection (potential all-way stop or choker)

Future Improvements

- Reconstruct curbs , if feasible without damaging trees



S. Overlook

Phase 1

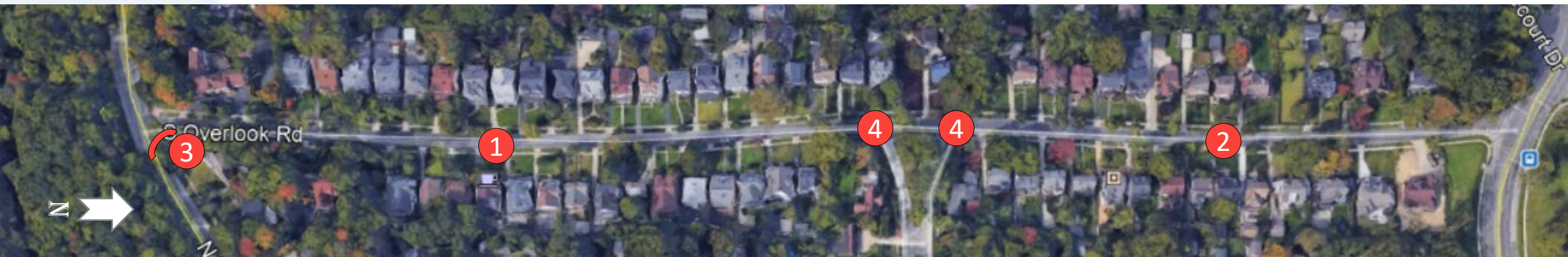
1. Chicane south of Cecil
2. Choker north of Cecil



S. Overlook

Phase 2

4. Treatment at Cecil (all-way stop)



HARCOURT RECOMMENDATIONS

Phase 1

- Channelization islands at Cedar (Top of the Hill) intersection
 - NB at Harcourt
 - SB at Overlook
- Choker/neckdown
 - At Chestnut Hills
 - At Denton
 - Will impact on-street parking capacity
- Reduce NW and NE corner radii at North Park

Phase 2

- Chicanes or speed tables at Chestnut Hills & Denton
 - Pending results of Phase 1 strategies throughout neighborhood
- Speed advisory signs

Future Improvements

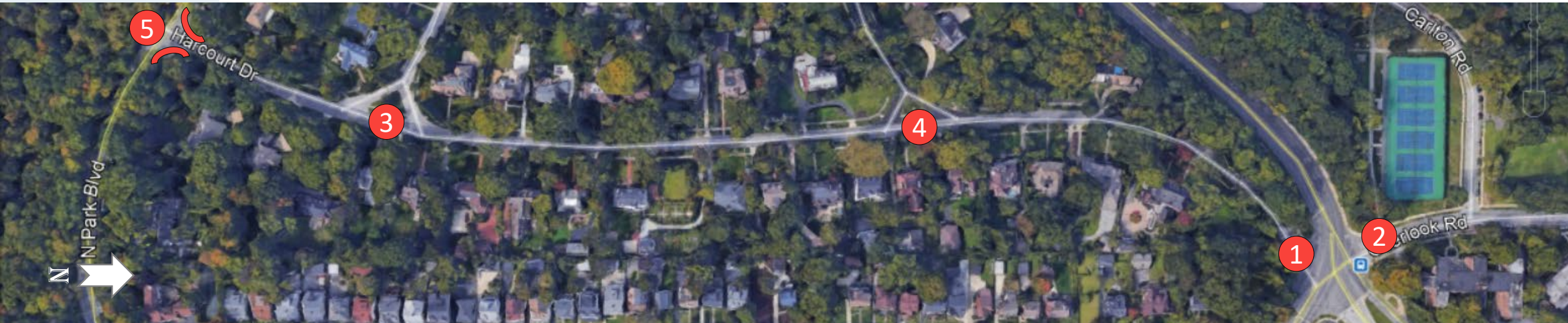
- Reconstruct curbs, if feasible without damaging trees



Harcourt

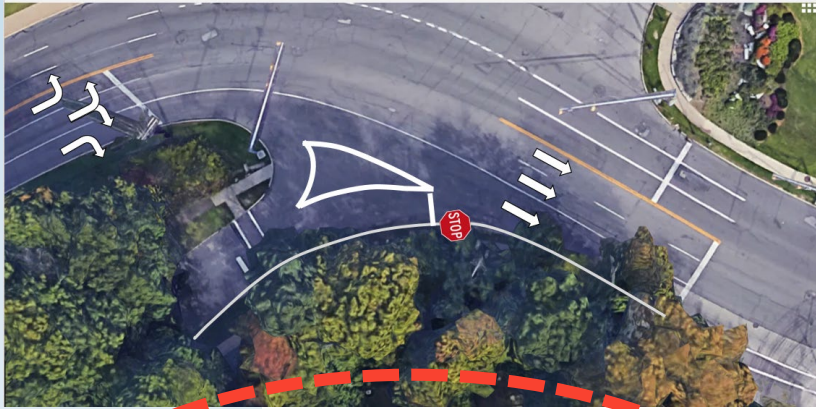
Phase 1

1. Channelization Island Cedar/Harcourt
2. Channelization island Cedar/North Overlook
3. Choker at Denton
4. Choker at Chestnut Hills
5. Reduce NW & NE curb radii at North Park



Harcourt Channelization Island

Cedar / Harcourt Intersection - Option 1



Cedar / Harcourt Intersection - Option 2



Recommended

Analysis of Operations

	Volume	Option 1		Option 2	
		LOS	Delay	LOS	Delay
Harcourt NBR	15	A	5.5	A	5.4
Overlook EBT	1705	A	4	A	4
Overlook EBR	40	A	3.3	A	1.9

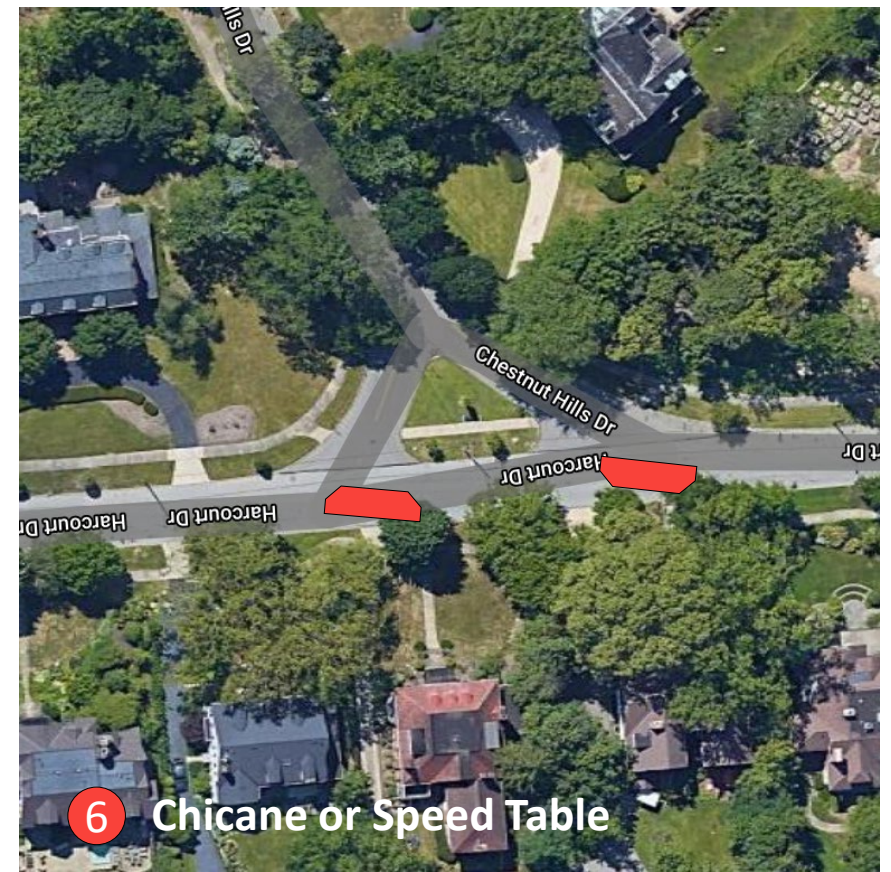
Overlook Channelization Island



Harcourt

Phase 2

- 6. Denton chicane/speed table
- 7. Chestnut Hills chicane/speed table



North Park



NORTH PARK RECOMMENDATIONS

Phase 1

- Bollards for Bike Lanes (verify fit); test with MOT barrels (candlestick)
- Close West St. James between Grandview and Bellfield
- Retain No Left Turn prohibitions for cross streets (existing condition)
- Test corner radii reductions with Qwik Curb (NOACA Street Supplies)

Phase 2

- Speed Advisory Sign(s), toward MLK

CROSS STREET RECOMMENDATIONS

Harcourt

- Reduce NW and NE corner radii

South Overlook

- Reduce NE corner radius

Delaware

- No change

Bellfield

- Reduce NE corner radius
- Close West St. James to east

Grandview

- Close West St. James to west

Cedar

CEDAR RECOMMENDATIONS (west to east)

Cedar Glen

- Eastbound approach to TOH intersection
- Install 25 mph speed zone ahead sign

Overlook

- Channelization Island

Harcourt

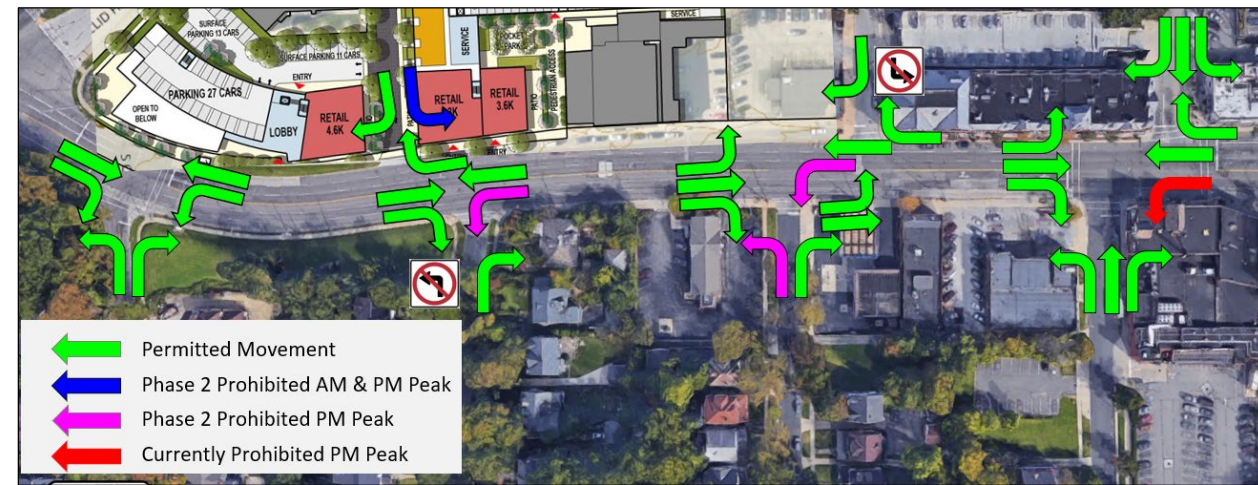
- Channelization island

South Overlook

- Reduce curb radius on SW corner of South Overlook/Cedar intersection

TOH access drive

- Prohibit SB left, PM peak, weekdays
- Monitor performance



Delaware

- Prohibit NB left, AM & PM peak, weekdays
- Monitor performance
- Future action, if warranted after monitoring
 - Prohibit WB left for PM peak

Lennox

- Prohibit SB left

Bellfield

- Future actions, if warranted after monitoring
 - Prohibit NB left, PM peak
 - Prohibit WB left, PM peak

Surrey-Grandview

- Prohibit WB left, PM peak, weekdays

IMPLEMENTATION STRATEGY

Phase 1

- Implement with test materials
 - Coordinate with NOACA for Street Supplies
- 3-4 month duration
- Monitor performance
 - Data collection to assess treatments
 - Conduct neighborhood survey for feedback
- Monitor Cedar operations
 - Crash data at left turns

Phase 2

- Implement pending results of data collection and analysis

Other

- Implement Delaware NB left prohibition with TOH opening

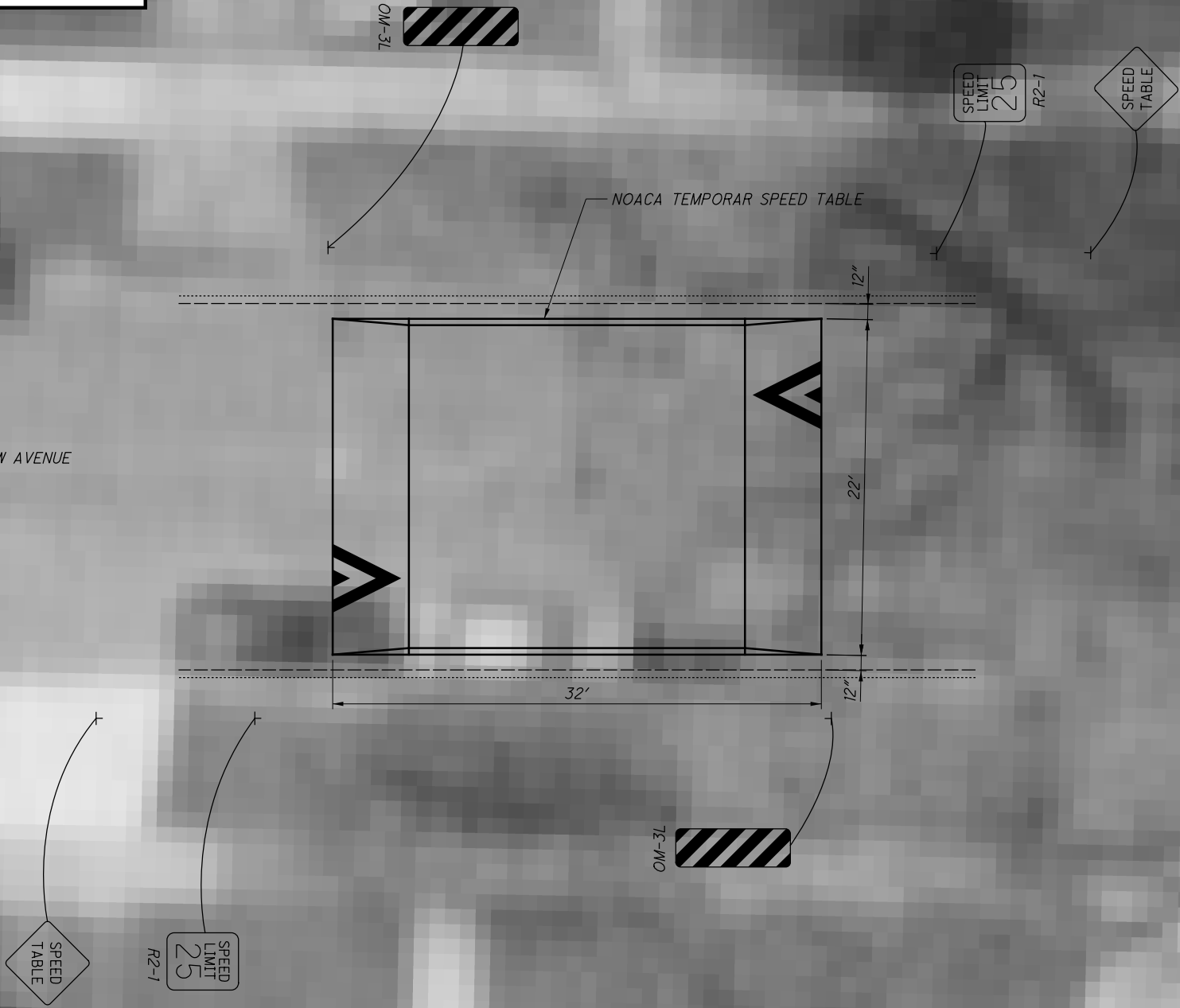
APPENDIX B

RECOMMENDATIONS DESIGN CONCEPTS

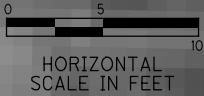
W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Grandview.dgn Speed Table South 3/13/2020 2:49:22 PM WrightJ

Speed Table		
Description	Units	Quantities
NOACA Temporary Speed Table	EA	1
Sign OM-3L	EA	2
Sign R2-1 "Speed Limit" "25"	EA	2
Posts	EA	4

GRANDVIEW AVENUE



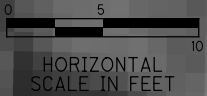
NOTE:
THIS IS A CONCEPTUAL DRAWING FOR THE
NOACA STREET SUPPLIES PROGRAM.
EXACT LOCATIONS AND MEASUREMENTS TO
BE VERIFIED IN THE FIELD.



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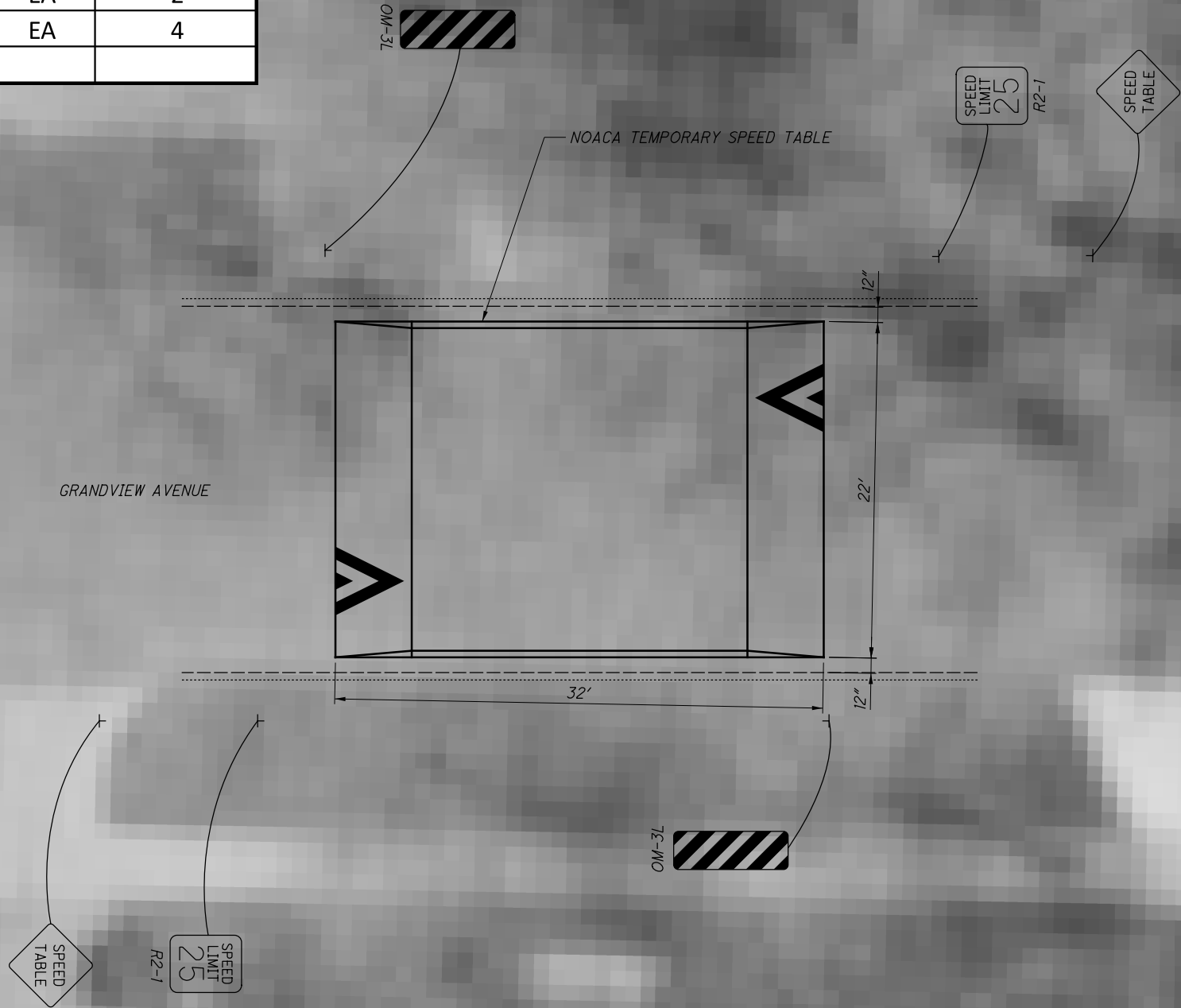
NOTE:

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HORIZONTAL
SCALE IN FEET

Speed Table		
Description	Units	Quantities
NOACA Temporary Speed Table	EA	1
Sign OM-3L	EA	2
Sign R2-1 "Speed Limit" "25"	EA	2
Posts	EA	4



TEMPORARY SPEED TABLE - NORTH
GRANDVIEW AVENUE

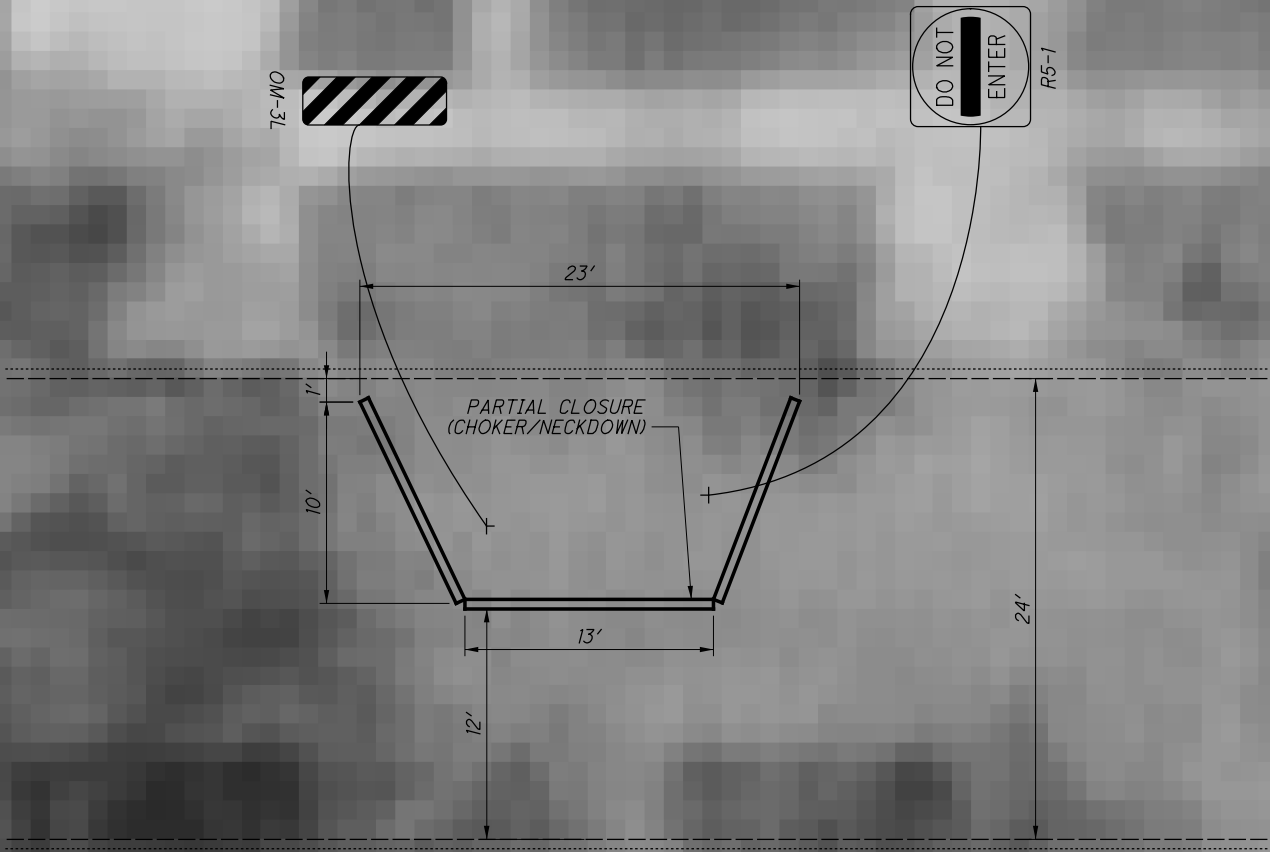
CEDAR FAIRMOUNT
NEIGHBORHOOD

CALCULATED
BLM
CHECKED
NWA

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Grandview.dgn Partial Closure 3/13/2020 2:47:24 PM WrightJ

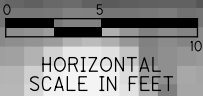
Chicane - Partial Closure		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	37
Sign OM-3L	EA	2
Sign R5-1 "Do Not Enter"	EA	1

GRANDVIEW AVENUE



NOTE:

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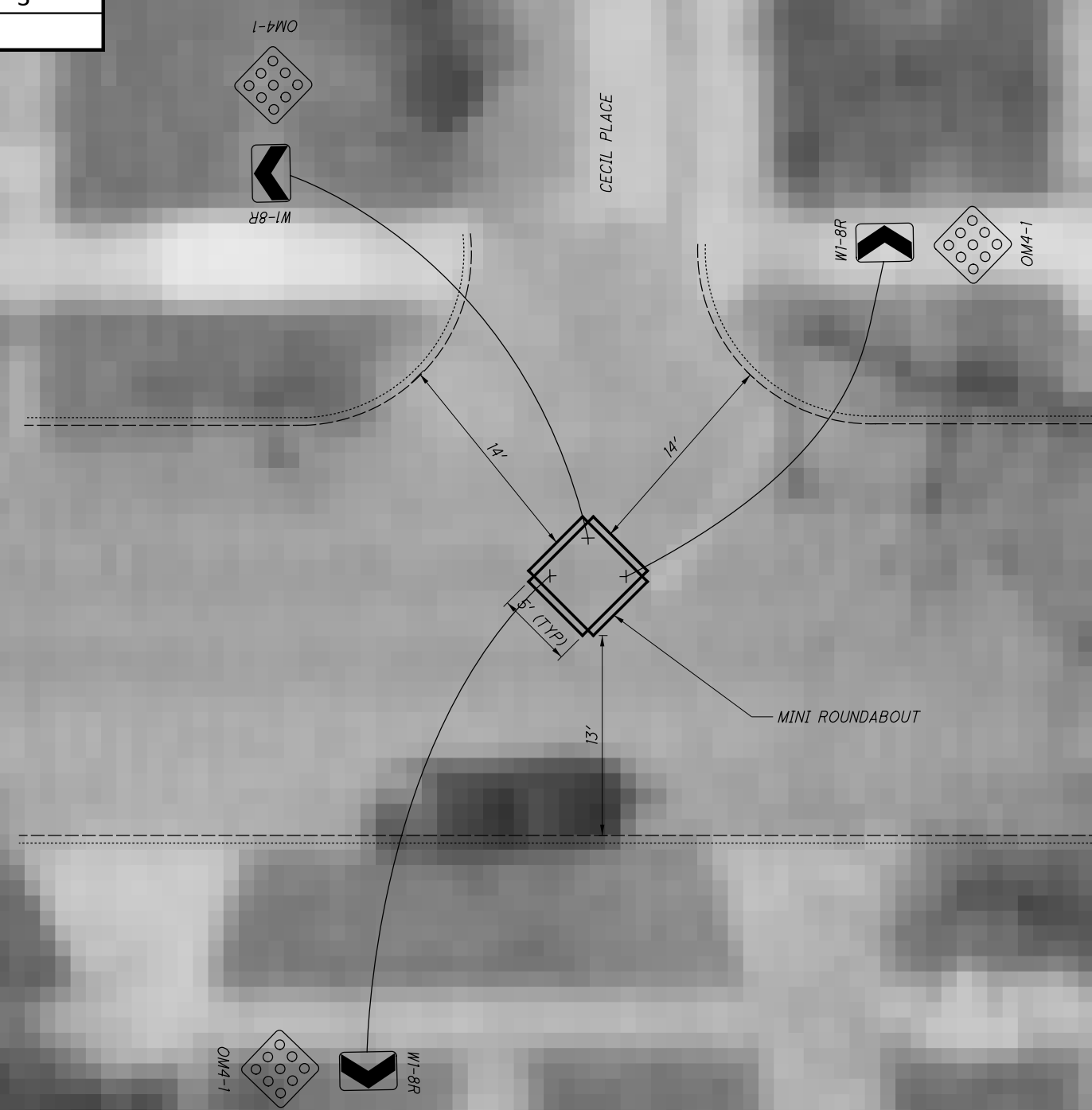


PARTIAL CLOSURE
GRANDVIEW AVENUE

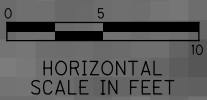
CEDAR FAIRMOUNT
NEIGHBORHOOD

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Grandview.dgn Mini Roundabout 3/13/2020 2:45:41 PM WrightJ

Mini Roundabout		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	20
Sign OM4-1	EA	3
Sign W1-8R "Chevron Alignment"	EA	3
Posts	EA	3



NOTE:
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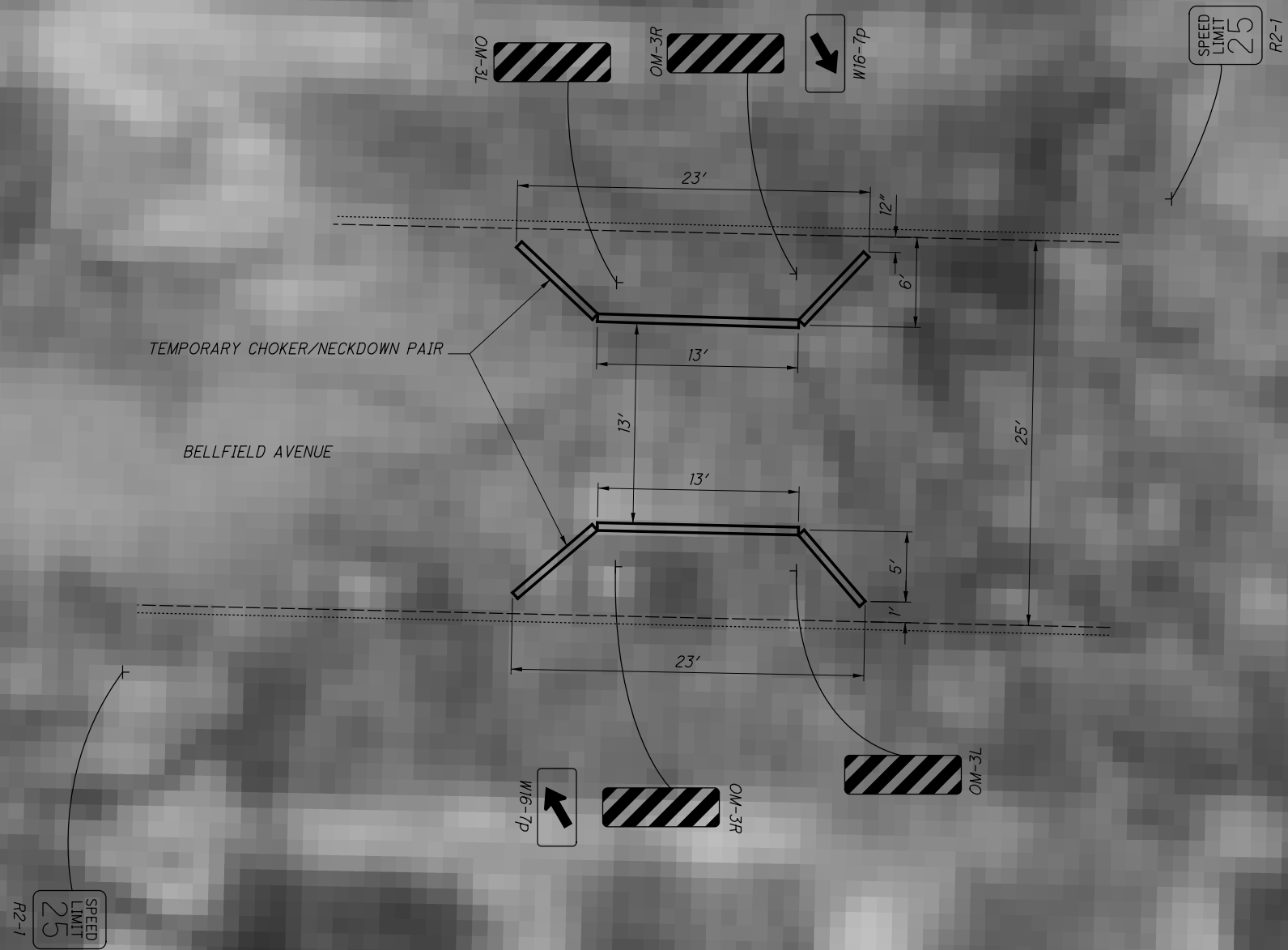


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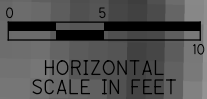
W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Bellfield.dgn Choker - South 3/13/2020 2:36:57 PM WrightJ

Choker		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	52
Sign OM-3L	EA	4
Sign W16-7p "Downward Diagonal (plaque)"	EA	2
Sign R2-1 "Speed Limit" "25"	EA	2
Posts	EA	6



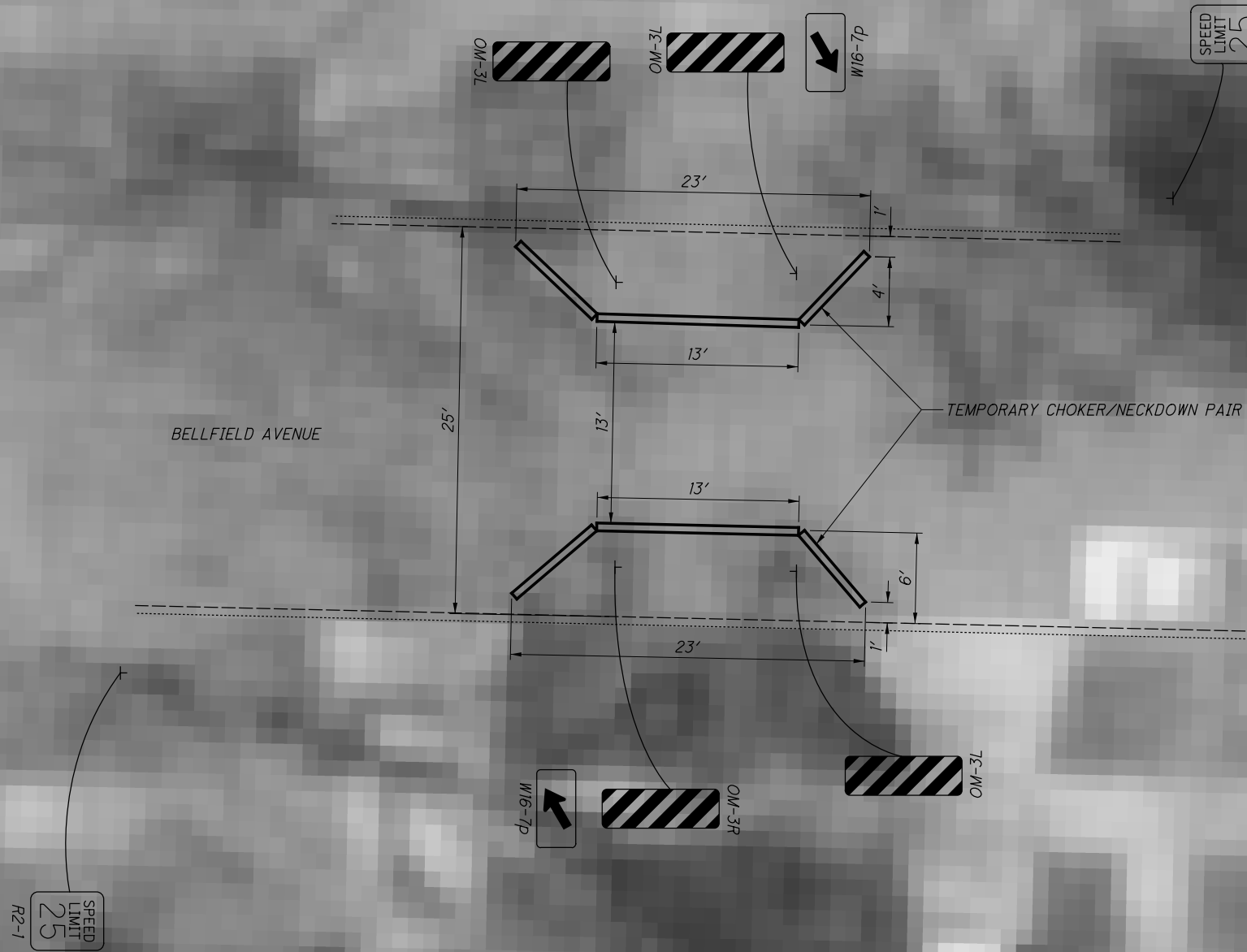
NOTE:

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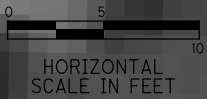
W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Bellfield.dgn Choker - North 3/13/2020 2:33:06 PM WrightJ

Choker		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	52
Sign OM-3L	EA	4
Sign W16-7p "Downward Diagonal (plaque)	EA	2
Sign R2-1 "Speed Limit" "25"	EA	2
Posts	EA	6



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CALCULATED	BLM	CHECKED	NWA
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TEMPORARY CHOKER/NECKDOWN
BELLFIELD AVENUE

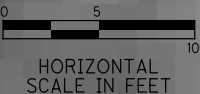
CEDAR FAIRMOUNT
NEIGHBORHOOD

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Bellfield.dgn Reduced Corner 3/13/2020 2:42:23 PM WrightJ

Curb Reduced Bellfield Avenue		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	48



NOTE:
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EXACT LOCATIONS AND MEASUREMENTS TO
BE VERIFIED IN THE FIELD.



REDUCE CURB RADIUS
BELLFIELD AVENUE

CEDAR FAIRMOUNT
NEIGHBORHOOD

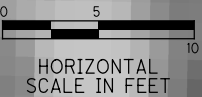
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CHECKED	NWA

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Bellfield.dgn Mini Roundabout 3/13/2020 2:40:11 PM WrightJ

Mini Roundabout		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	20
Sign OM4-1	EA	3
Sign W1-8R "Chevron Alignment"	EA	3
Posts	EA	3



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TEMPORARY MINI ROUNDABOUT
BELLFIELD AVENUE

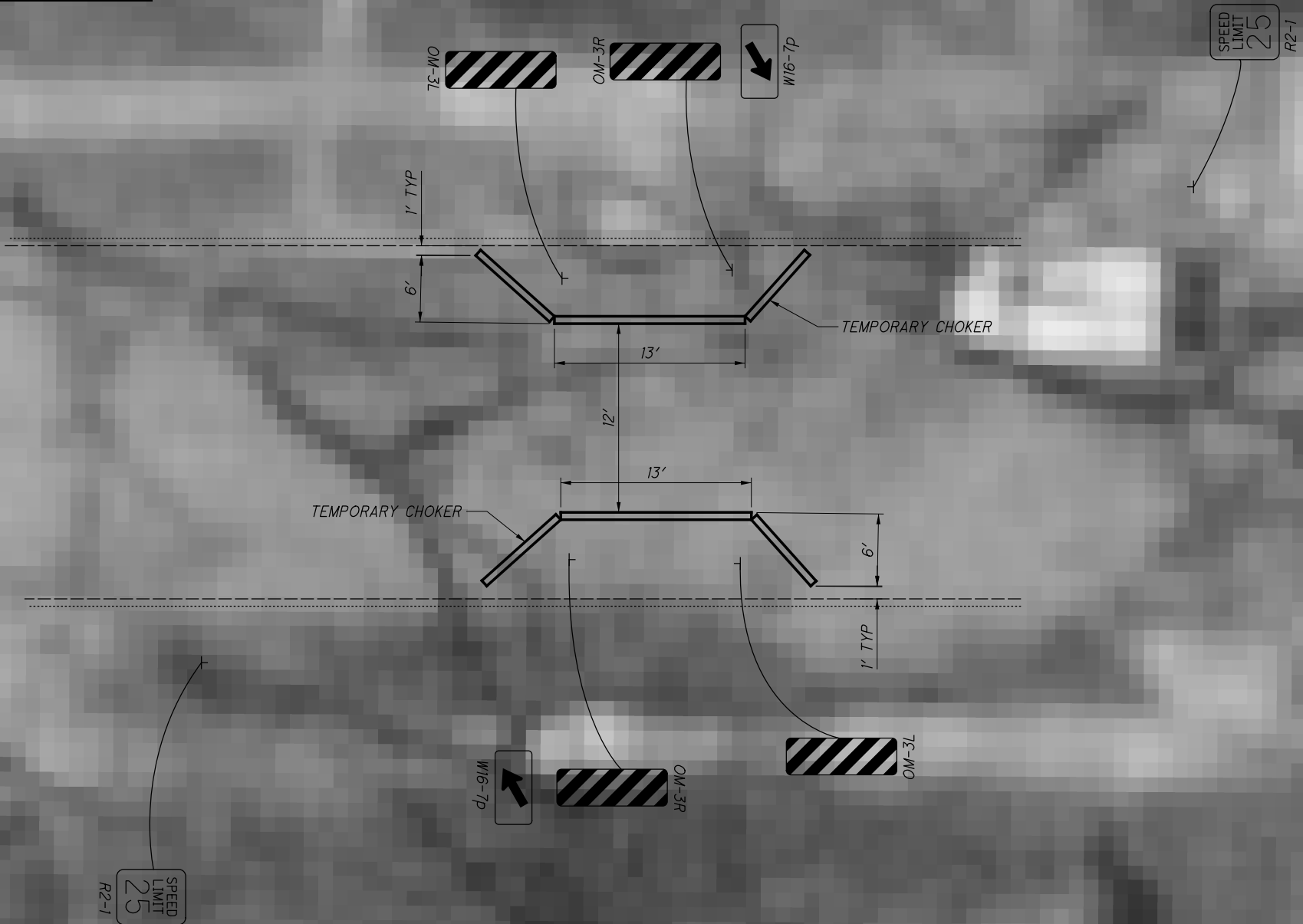
CEDAR FAIRMOUNT
NEIGHBORHOOD

CALCULATED
BLM
CHECKED
NWA

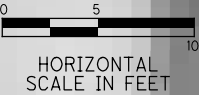
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Chicanes		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	64
Sign OM-3L	EA	2
Sign W16-7p "Downword Diagonal (plaque)"	EA	2
Sign W1-5L "Horizontal Alignment" "15"	EA	2
Posts	EA	4

DELAWARE DRIVE

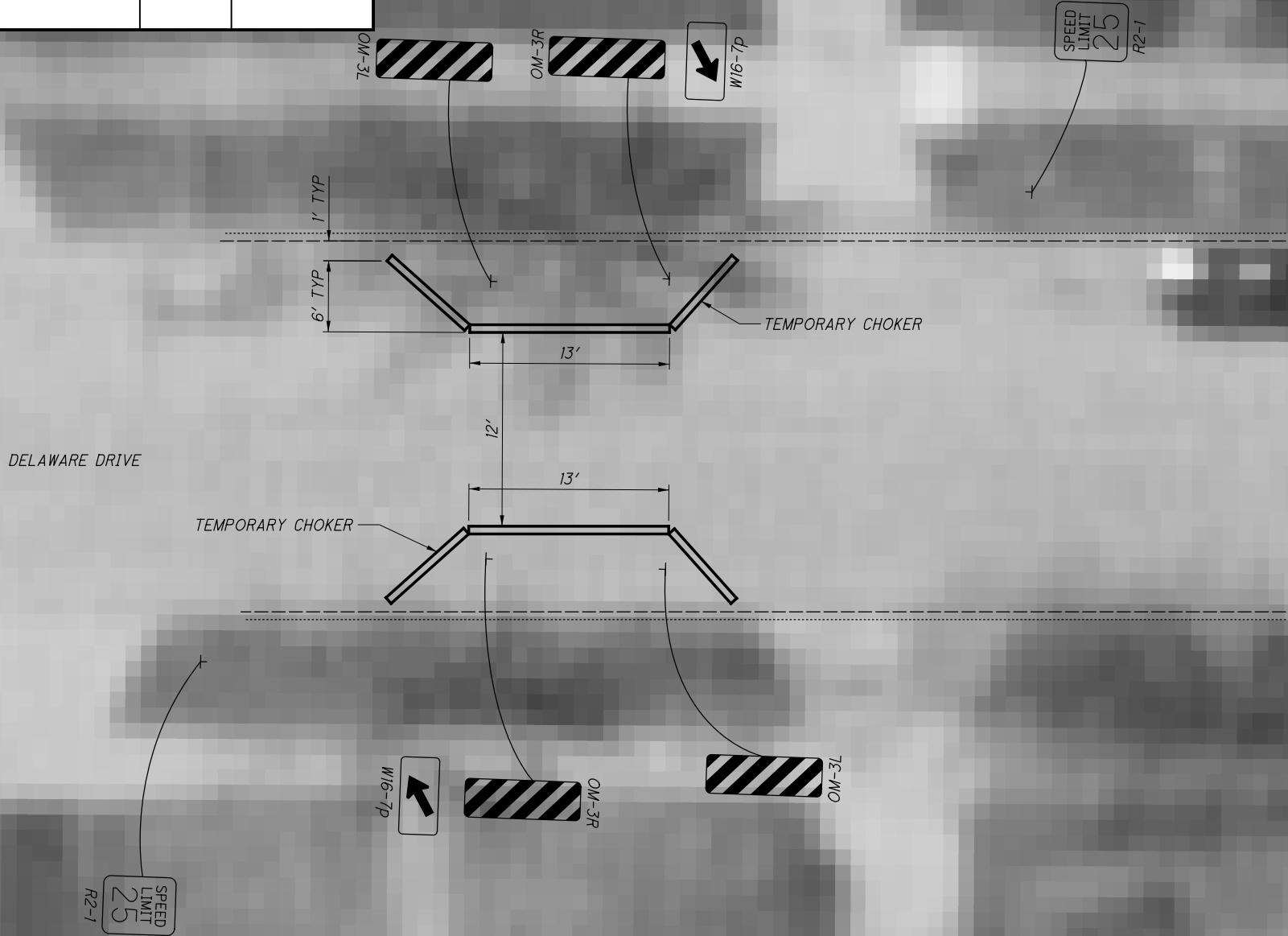


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EXACT LOCATIONS AND MEASUREMENTS TO
BE VERIFIED IN THE FIELD.

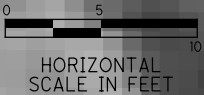


W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Delaware Drive.dgn Chicane - North 3/13/2020 3:45:24 PM WrightJ

Chicanes		
Description	Units	Quantities
Quick Kurb Channelizing System	FT	64
Sign OM-3L	EA	2
Sign W16-7p "Downward Diagonal (plaque)"	EA	2
Sign W1-5L "Horizontal Alignment" "15"	EA	2
Posts	EA	4

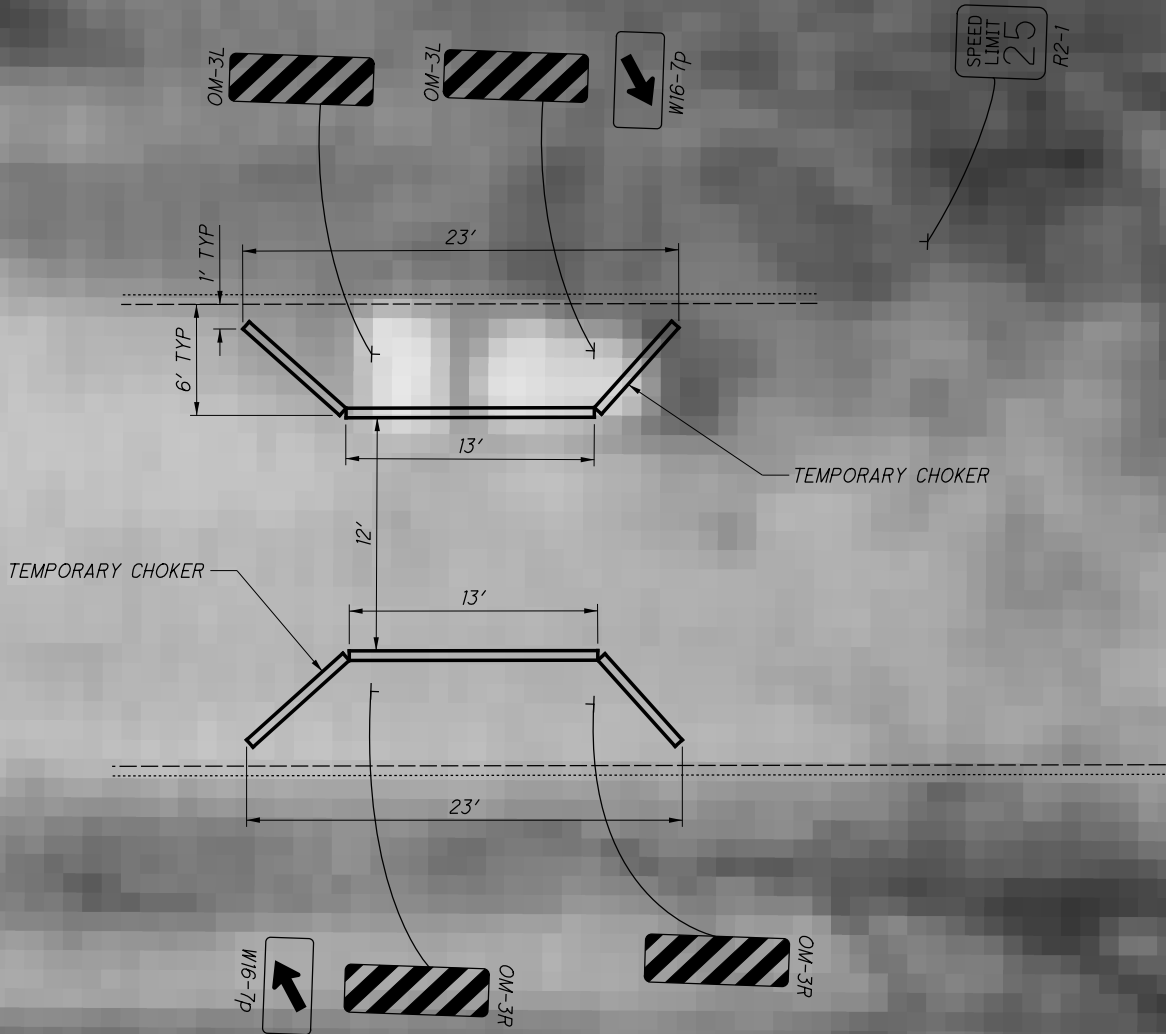
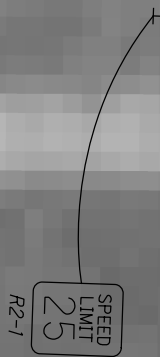


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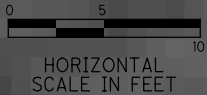


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Choker		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	52
Sign OM-3L	EA	4
Sign W16-7p "Downward Diagonal (plaque)"	EA	2
Sign R2-1 "Speed Limit" "25"	EA	2
Posts	EA	6



NOTE:
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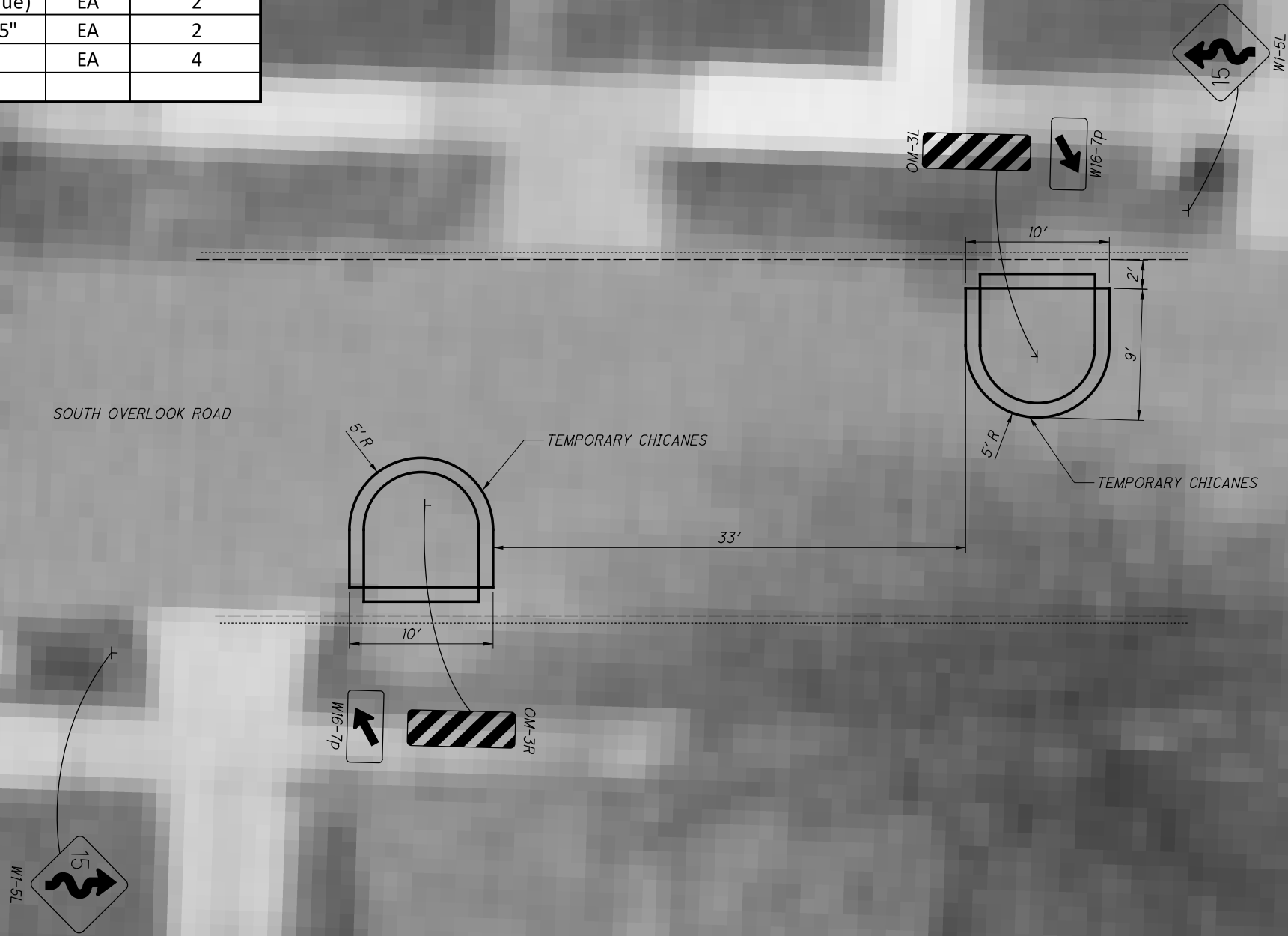
CHOKER AT CECIL PLACE
DELAWARE DRIVE

CEDAR FAIRMOUNT
NEIGHBORHOOD

CALCULATED
BLM
CHECKED
NWA

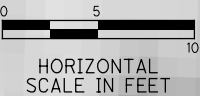
W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\South Overlook Road.dgn Chicanes - South 3/16/2020 9:05:09 AM WrightJ

Chicanes		
Description	Units	Quantities
Quick Kurb Channelizing System	FT	64
Sign OM-3L	EA	2
Sign W16-7p "Downword Diagonal (plaque)	EA	2
Sign W1-5L "Horizontal Alignment" "15"	EA	2
Posts	EA	4



NOTE:

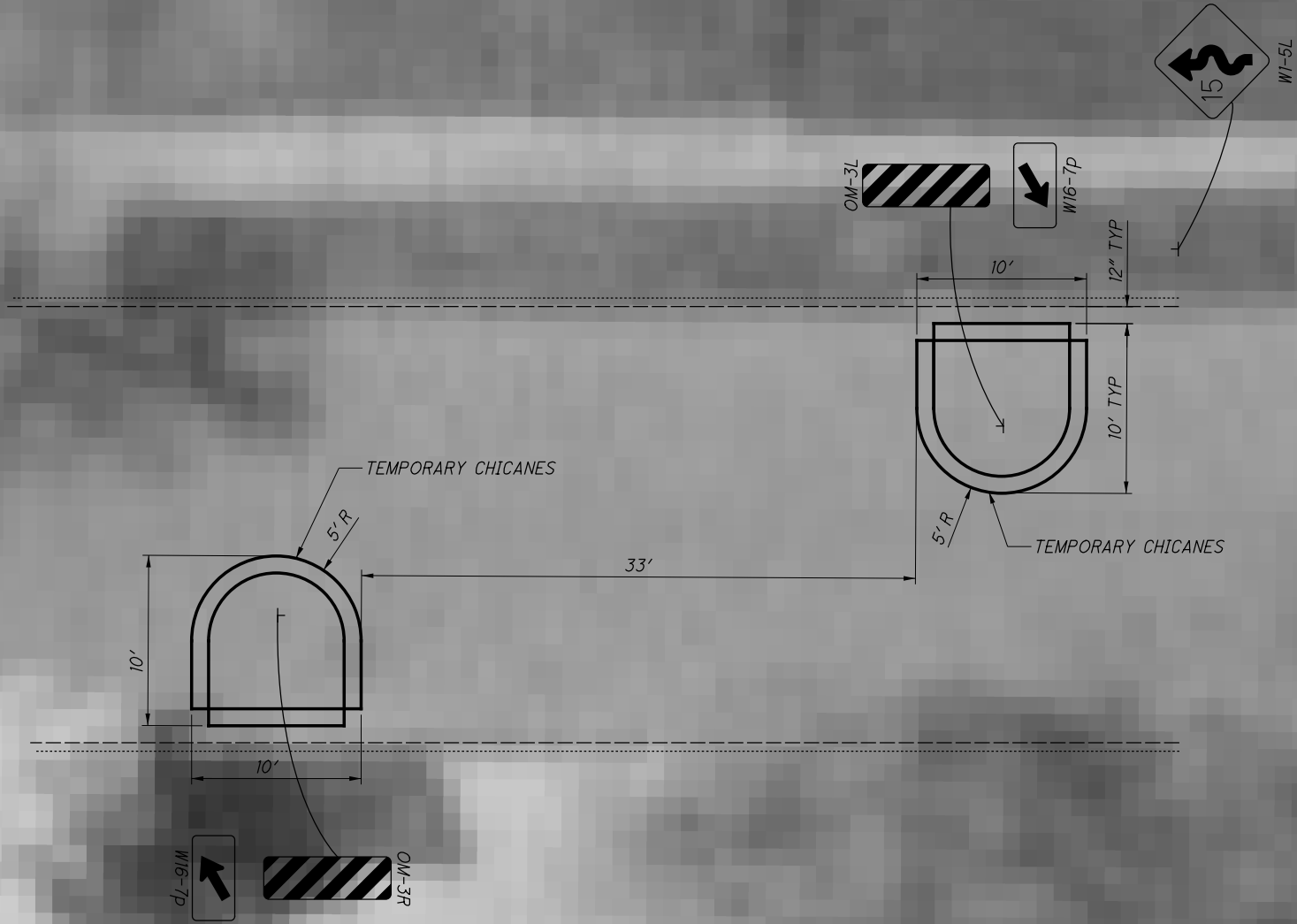
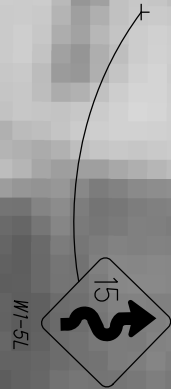
THIS IS A CONCEPTUAL DRAWING FOR THE
NOACA STREET SUPPLIES PROGRAM.
EXACT LOCATIONS AND MEASUREMENTS TO
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Chicanes		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	64
Sign OM-3L	EA	2
Sign W16-7p "Downward Diagonal (plaque)"	EA	2
Sign W1-5L "Horizontal Alignment" "15"	EA	2
Posts	EA	4

SOUTH OVERLOOK ROAD



0 5 10
HORIZONTAL
SCALE IN FEET



NOTE:

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EXACT LOCATIONS AND MEASUREMENTS TO
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TEMPORARY CHICANES
SOUTH OVERLOOK ROAD

CEDAR FAIRMOUNT
NEIGHBORHOOD

CALCULATED
BLM
CHECKED
NWA

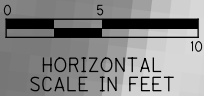
10

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\South Overlook Road.dgn Reduce Curb 3/16/2020 9:11:06 AM WrightJ

South Overlook Road		
Description	Units	Quantities
Quick Kurb Channelizing System	FT	78



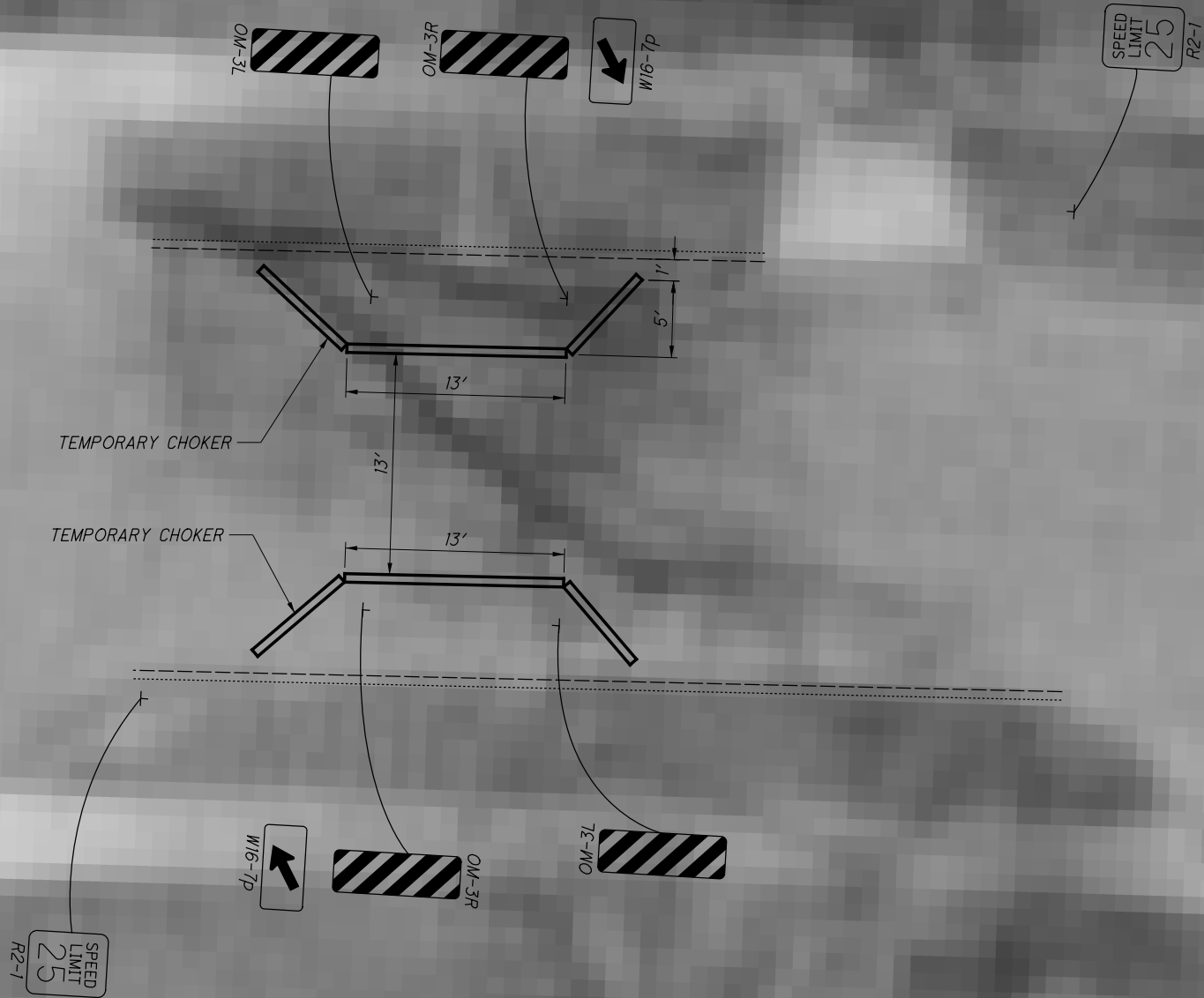
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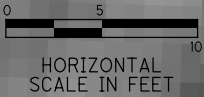
CALCULATED BLM	CHECKED NWA	CEDAR FAIRMOUNT NEIGHBORHOOD	9	REDUCED CURB SOUTH OVERLOOK ROAD

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\South Overlook Road.dgn Choker - Cecil Place 3/16/2020 9:08:21 AM WrightJ

Choker		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	52
Sign OM-3L	EA	4
Sign W16-7p "Downward Diagonal (plaque)"	EA	2
Sign R2-1 "Speed Limit" "25"	EA	2
Posts	EA	6



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EXACT LOCATIONS AND MEASUREMENTS TO
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TEMPORARY CHICANES
SOUTH OVERLOOK ROAD

CEDAR FAIRMOUNT
NEIGHBORHOOD

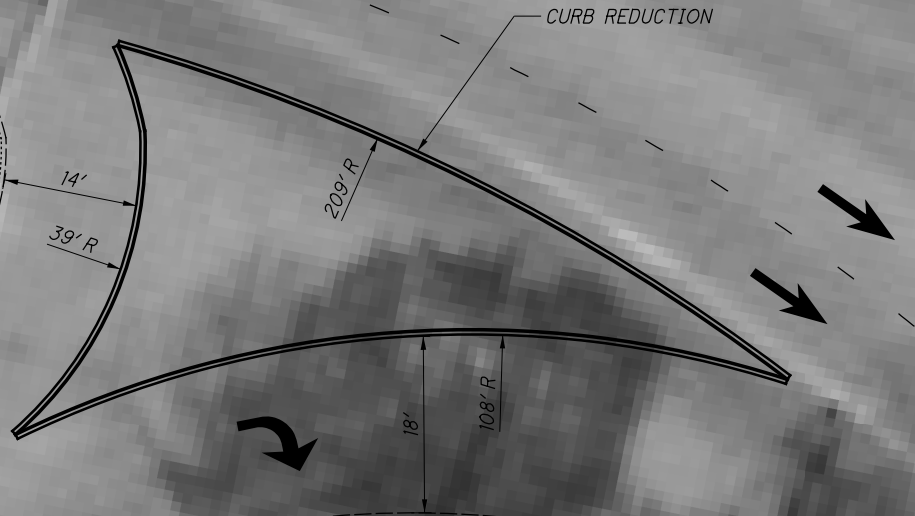
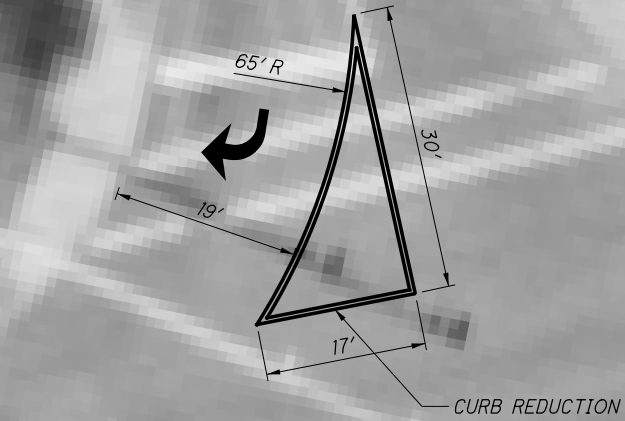
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BLM
CHECKED
NWA

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Harcourt Drive.dgn Harcourt and Cedar 3/16/2020 8:41:40 AM WrightJ

Harcourt Drive North		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	205
PAINT - DOTTED	MI	0.06
PAVEMENT MARKING (LEFT TURN)	EA	1
PAVEMENT MARKING (RIGHT TURN)	EA	2
PAVEMENT MARKING (SPLIT RIGHT/LEFT)	EA	1
PAVEMENT MARKING (STRAIGHT)	EA	4

Overlook @ Cedar Road		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	111
PAVEMENT MARKING (RIGHT TURN)	EA	1

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0 10 20
HORIZONTAL
SCALE IN FEET

CEDAR FAIRMOUNT
NEIGHBORHOOD

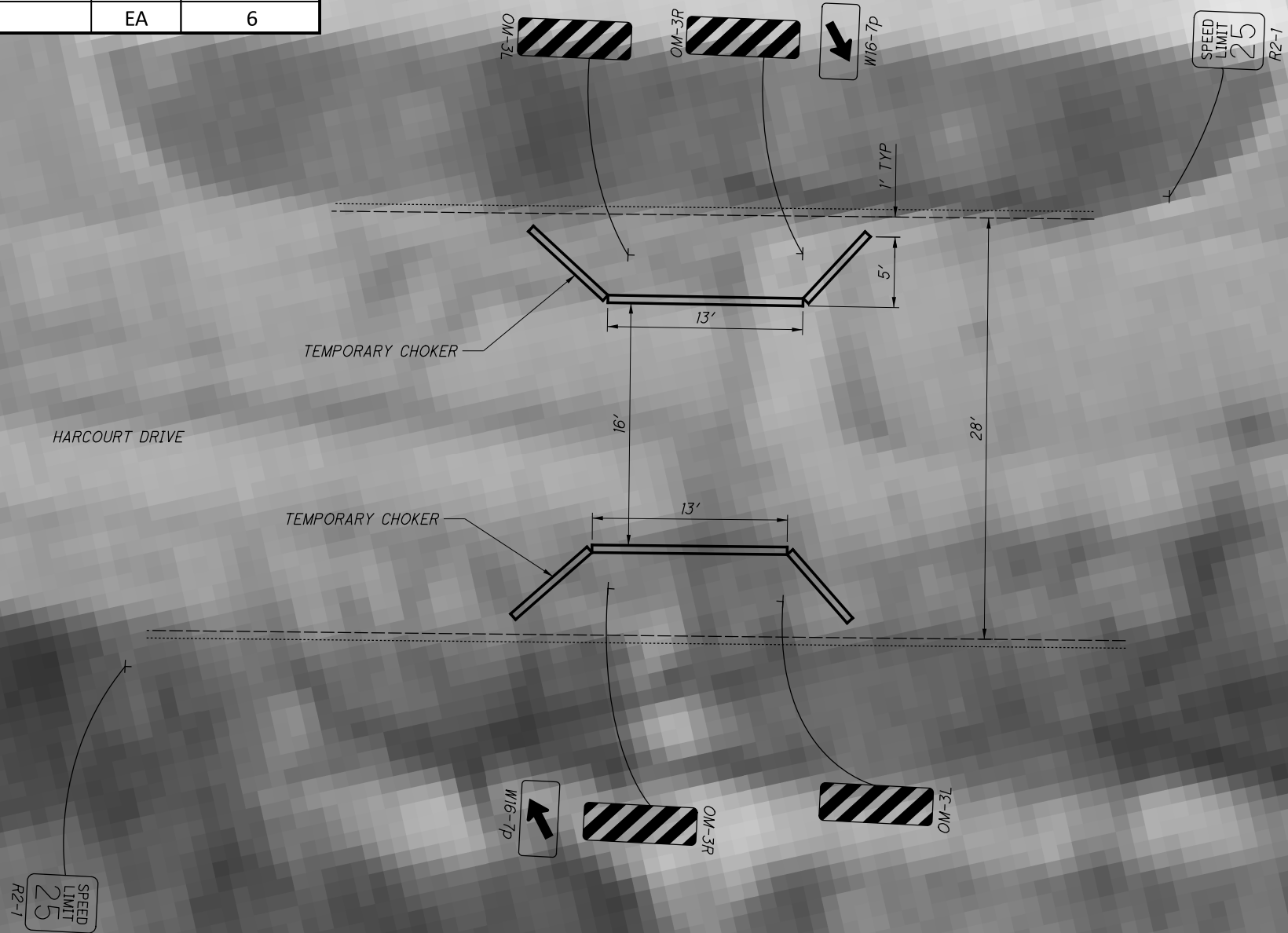
CURB REDUCTION
HARCOURT DRIVE AND CEDAR ROAD

CALCULATED
BLM
CHECKED
NWA

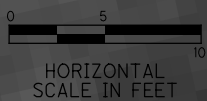
13

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Harcourt Drive.dgn Choker - South 3/16/2020 8:33:44 AM WrightJ

Choker		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	52
Sign OM-3L	EA	4
Sign W16-7p "Downward Diagonal (plaque)"	EA	2
Sign R2-1 "Speed Limit" "25"	EA	2
Posts	EA	6



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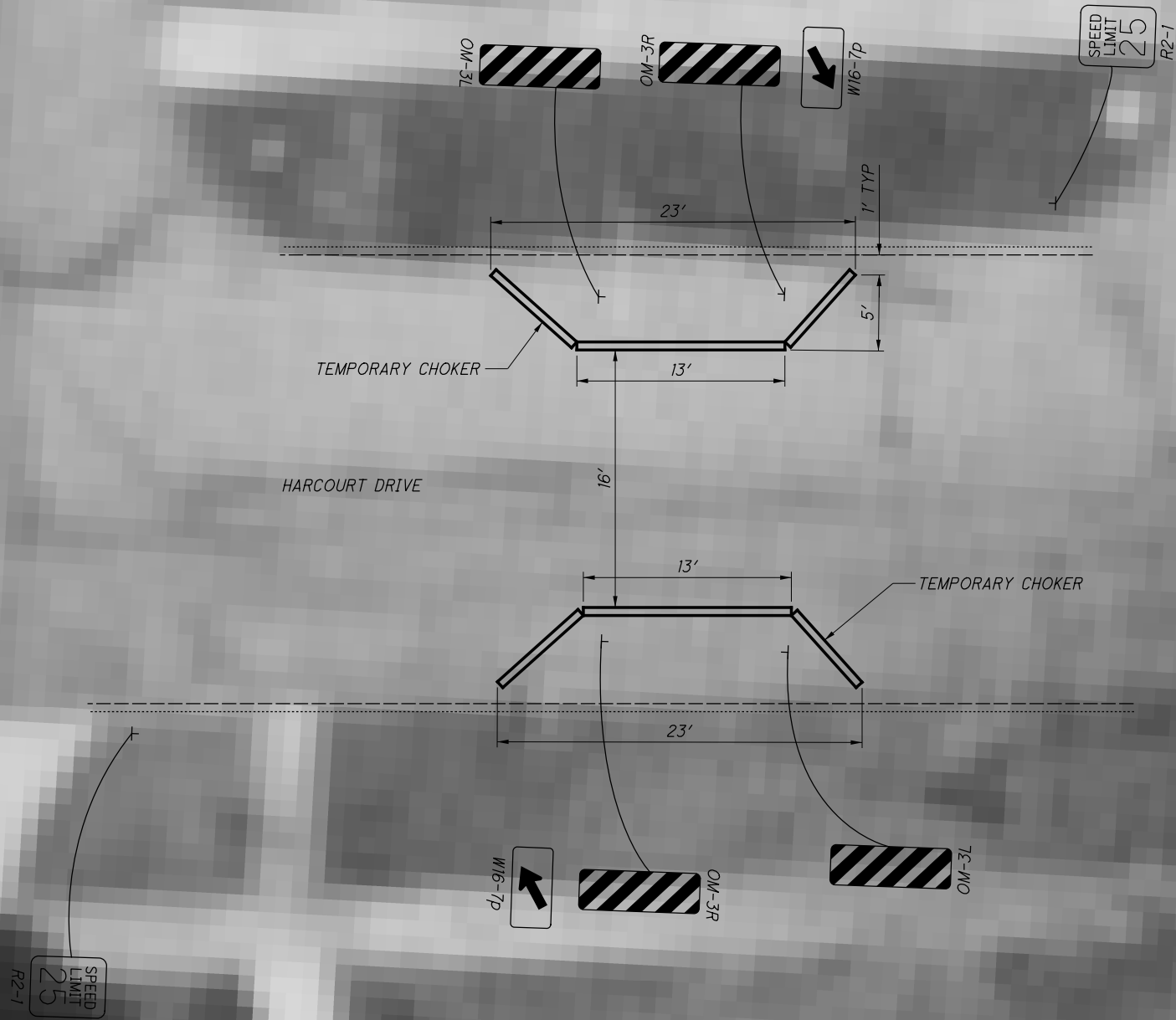
TEMPORARY CHOKER
HARCOURT DRIVE

CEDAR FAIRMOUNT
NEIGHBORHOOD

CALCULATED
BLM
CHECKED
NWA

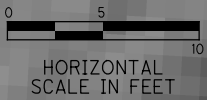
W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\Harcourt Drive.dgn Choker - North 3/16/2020 8:31:11 AM WrightJ

Choker		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	52
Sign OM-3L	EA	4
Sign W16-7p "Downword Diagonal (plaque)"	EA	2
Sign R2-1 "Speed Limit" "25"	EA	2
Posts	EA	6



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TEMPORARY CHOKER
HARCOURT DRIVE

CEDAR FAIRMOUNT
NEIGHBORHOOD

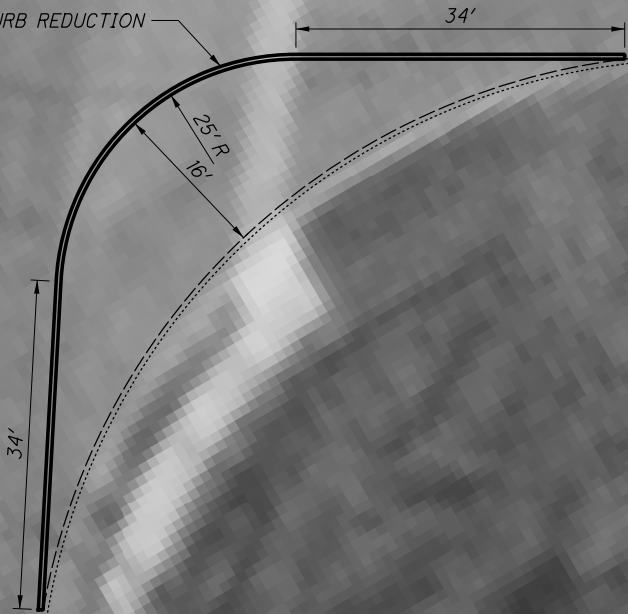
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BLM
CHECKED
NWA

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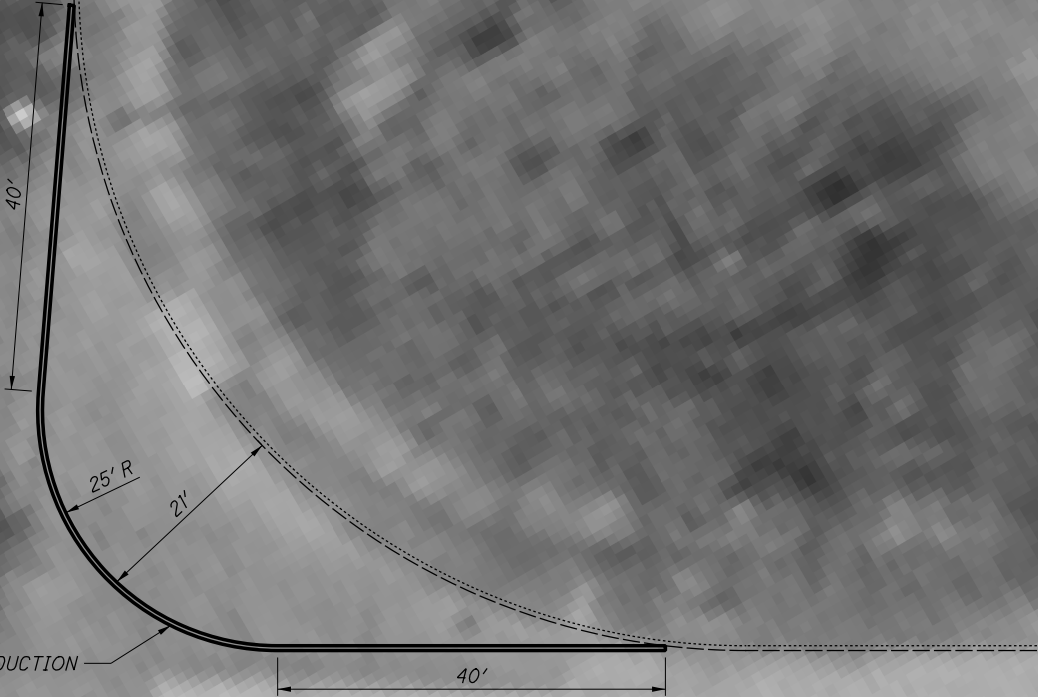
Harcourt Drive South		
Description	Units	Quantities
Qwick Kurb Channelizing System	FT	228

NORTH PARK BLVD

CURB REDUCTION



CURB REDUCTION



HARCOURT DRIVE

NOTE:

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EXACT LOCATIONS AND MEASUREMENTS TO
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W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\North Park Blvd - Bollards.dgn Bollards - 1 3/18/2020 1:10:52 PM WrightJ



CALCULATED BLM	CHECKED NWA	CEDAR FAIRMOUNT NEIGHBORHOOD	PERMANENT BOLLARDS - SHEET 1 NORTH PARK BLVD

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\North Park Blvd - Bollards.dgn Bollards - 2 3/18/2020 1:13:32 PM WrightJ



W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\North Park Blvd - Bollards.dgn Bollards - 3 3/18/2020 1:19:04 PM WrightJ



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CALCULATED BLM	CHECKED NWA	PERMANENT BOLLARDS - SHEET 3 NORTH PARK BLVD	CEDAR FAIRMOUNT NEIGHBORHOOD	

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\North Park Blvd - Bollards.dgn Bollards - 4 3/18/2020 1:23:52 PM WrightJ



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EXACT LOCATIONS AND MEASUREMENTS TO
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CALCULATED BLM	CHECKED NWA	PERMANENT BOLLARDS - SHEET 4 NORTH PARK BLVD	CEDAR FAIRMOUNT NEIGHBORHOOD	<div>0</div>
				<div>0</div>

W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\North Park Blvd - MOT Barrels.dgn MOT Barrels.dgn 12:31:27 PM WrightJ



W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\North Park Blvd - MOT Barrels.dgn MOT Barrels - 2 3/18/2020 12:33:18 PM WrightJ



W:\192621_Cedar Fairmount Neighborhood\Roadway\Sheet\North Park Blvd - MOT Barrels.dgn MOT Barrels - 3 3/18/2020 12:34:48 PM WrightJ



NOTE:
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EXACT LOCATIONS AND MEASUREMENTS TO
BE VERIFIED IN THE FIELD.

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CALCULATED BLM	CHECKED NWA	CEDAR FAIRMOUNT NEIGHBORHOOD	QWICK-KURB SHEET 1 NORTH PARK BLVD

HORIZONTAL
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CALCULATED BLM	CHECKED NWA	QWICK-KURB SHEET 2 NORTH PARK BLVD	CEDAR FAIRMOUNT NEIGHBORHOOD	

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CALCULATED BLM	CHECKED NWA	QWICK-KURB SHEET 3 NORTH PARK BLVD	CEDAR FAIRMOUNT NEIGHBORHOOD	



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CALCULATED BLM	CHECKED NWA	QWICK-KURB SHEET 4 NORTH PARK BLVD	CEDAR FAIRMOUNT NEIGHBORHOOD	<div>0</div>