



Agenda  
Village of Glen Ellyn  
Special Workshop Meeting  
Monday, March 4, 2019  
7:00 PM  
Glen Ellyn Civic Center, Room 301

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Village Board Workshop Procedures Statement

*Visitors are most welcome to attend all meetings of the Village Board and can find copies of the Agenda on their chairs or online at [www.glenellyn.org](http://www.glenellyn.org) prior to the meeting. Any individual with a disability requiring a reasonable accommodation in order to participate in a meeting should contact the Village of Glen Ellyn ADA Coordinator, 630-469-5000, at least five (5) business days in advance of the next scheduled meeting. All matters on the Agenda may be discussed, amended, and acted upon.*

**A. Call to Order**

**B. Pledge of Allegiance**

**C. Roll Call**

**D. Audience Participation**

1. Open:

Members of the public are welcome to speak to any item not specifically listed on tonight's agenda for up to (3) three minutes. For those items which are on tonight's agenda, the public will have the opportunity to comment at the time the item is discussed. In either case, please complete the Audience Participation form and turn it in to the Village Clerk. It is requested that, if possible, one spokesman for a group be appointed to present the views of the entire group. Speakers who are recognized are requested to step to a microphone and state their name, their topic and the group, if any, they are representing prior to addressing the Village Board. Individuals wishing to address the Board shall exercise proper decorum and respect for the proceedings and the business of the Village Board, and shall refrain from abusive demeanor and language. The practice of ceding time to other speakers shall be prohibited, except in the discretion of the presiding officer of the meeting. Public officials are not obligated to respond to questions.

**E. Continuation of Central Business District (CBD) Design and Streetscape Update (Presented by Professional Engineer Daubert) (Discussion Only)**

1. Professional Engineer Daubert will lead a discussion on various project elements of the CBD Streetscape and Utility Project.

**F. Other Items**

**G. Adjournment**



Glen Ellyn Village Board  
535 Duane Street  
Glen Ellyn, IL 60137

Meeting: 03/04/19 07:00 PM  
Department: Public Works  
Department Head: Julius Hansen  
Category: Discussion Item  
Prepared By: Lindsey Kaminsky

SCHEDULED

AGENDA ITEM (ID # 3862)

DOC ID: 3862

## **Professional Engineer Daubert will lead a discussion on various project elements of the CBD Streetscape and Utility Project.**

### **Background**

Since the initiation of the CBD Streetscape and Utility project in fall of 2018, the project team consisting of staff, a steering committee, and Civiltech Engineering has been working diligently on the first phase of engineering design work to meet the project schedule below:

- April/May 2019: Completion of first phase of design work (Preliminary Engineering)
- Summer 2019: Commence second phase of design work (Final Engineering)
- Early 2020: Completion of second phase of design work (Final Engineering)
- Spring of 2020: Commence phased construction of improvements

To date, the engineer has collected preliminary project information, reviewed on-street parking, prepared options for potential changes to on-street parking, prepared rough order of magnitude cost estimates, evaluated various sidewalk paving material options, and launched a stakeholder coordination and public input campaign.

### **Subject**

Public Works staff is seeking Village Board input on project elements including on-street parking assessment and potential changes, budget and cost estimate, and material choices for sidewalks and crosswalks. A Power Point Presentation concerning these matters will be made to the Village Board at its February 19, 2019 Village Workshop and is attached hereto for reference.

Staff's original intent was to solicit input and recommendations on the aforementioned items from the Capital Improvements Commission at its February 12 meeting and present them to the Board at the February 19 Workshop. As the CIC meeting was cancelled due to a lack of a quorum, the CIC members were requested to provide individual input through a form provided by staff. Input received from Commissioners will be forwarded to the Village Board on Monday, February 18. In addition, CIC members have been invited to the Village Board Workshop to provide any further input they may have or participate as requested by the Village Board.

### **On-Street Parking**

There are 361 existing on-street parking spaces within the CBD Streetscape and Utility Project limits. These are a mix of angled and parallel spaces. There are currently 2 ADA accessible spaces. However, to meet current federal requirements, there should be an additional 17 ADA accessible spaces, for a total of 19. In addition, some of the existing spaces in the CBD are in locations prohibited by the Illinois Vehicle Code.

These locations include:

- Within 15' of a fire hydrant
- Within 20' of a crosswalk
- Within 30' on the approach leg to any intersection with a stop sign
- On the side of a street opposite the entrance to any fire station within 75' of this type of entrance

To bring the Village's existing parking configuration up to ADA standards and consistent with the Illinois Vehicle Code, the parking would be reduced by 41 spaces (total of 320 on-street parking spaces).

In addition, a discussion is in order concerning the existing on-street angled parking which is a mix of 45 and 60 degree configurations. Just to clarify, 90 degree angled parking is perpendicular to the adjacent vehicular travel lanes. As the angle is reduced, the parking stalls become more parallel to the direction of vehicular travel.

Current design standards provided by IDOT are that angled parking should be 45 degrees or less. Another consideration is that angled parking requires that multiple adjacent travel lanes are provided, in essence to provide a lane for vehicles to back in. The idea is that if a vehicle is backing out of an angled parking space, a vehicle coming from behind has an adjacent travel lane which it could utilize to maneuver around the vehicle backing out of the angled parking space. On the Village's one-way streets in the CBD, there are two travel lanes which thereby support angled parking as it relates to the adjacent lane requirements. However, on two-way streets, there are only single travel lanes; as such, a vehicle would need to veer into opposing traffic to avoid a vehicle backing into the travel lane.

One potential change would involve converting all the 45 and 60 degree angled parking to 30 degrees. This change in of itself would result in a loss of 36 spaces. However, the required 16' of roadway width for the parking area and 10' for an adjacent travel lane is more compatible with the existing roadway widths of the Village's one-way streets. The 30 degree angle also makes it easier for drivers to see vehicles as they perform their reverse maneuver. On the Village's two-way streets, there is insufficient width to provide redundant adjacent travel lane required by State standards.

Parallel parking is IDOT's recommended on-street parking configuration. In comparison to 30 degree angled parking, converting the entire CBD to parallel parking results in an additional loss of 4 spaces. The main reason for this is that the angled ADA parking spaces require side loading zones and parallel ADA spaces do not. In parallel parking areas, the loading spaces can be provided within the sidewalk or near intersections, which is allowed due to the limited right-of-way on most legs of the project.

Please see Table 1 for a summary of this information as well as Parking Exhibits 2 - 6.

Table 1 - Existing and Proposed Parking Summary Changes

|                                               | North Side | South Side | Total |
|-----------------------------------------------|------------|------------|-------|
| <b>Existing Parking Configuration</b>         |            |            |       |
| Change to ADA parking loading zones           | 9          | 2          | 11    |
| Removal to comply with state policy           | 25         | 2          | 30    |
| Total                                         | 34         | 4          | 41    |
| <b>Change to 30 Degree Angle Parking</b>      |            |            |       |
| Change to ADA parking loading zones           | 8          | 1          | 9     |
| Removal to comply with state policy           | 25         | 5          | 30    |
| Loss due to change to 30 degree angle parking | 28         | 4          | 32    |
| Total                                         | 61         | 10         | 71    |
| <b>Change to Parallel Parking</b>             |            |            |       |
| Change to comply with state policy            | 27         | 5          | 32    |
| Loss due to change to parallel parking        | 37         | 6          | 43    |
| Total                                         | 64         | 11         | 75    |

Several of the roadways in the CBD including Main, Pennsylvania, Prospect, and Crescent, are Federal Aid Routes which are eligible for federal funding. While design exceptions from State Standards can be requested, best practice is to design to the current State Standards as deviation could result in the Village not qualifying for funding in the future.

One of the factors in parallel parking being the recommended standard is due to the increased crash rate that is seen in many existing angle parking areas. For example, on Crescent east of Main, there were 26 parking related crashes over a 4-year period, compared to 8 other types of crashes. This parking related crash number may be low, as crash reports are only generated when there is property damage over \$1500 that is reported to the police. Events that were under \$1500 or not reported to the police are not counted. Additional study of the crash reports may yield more indirect parking related crashes, such as a thru vehicle striking another thru vehicle that has quickly stopped to avoid striking the vehicle backing out of a space. See Exhibit 7 for Crash Data

One evident benefit of reducing parking widths is the ability to create wider sidewalk with additional amenities and trees. During the recently held Design Workshop, a majority of respondents stated that the goal of the streetscape project is to make the CBD a place for people. Ample pedestrian accommodations create places where people will want to spend more time, and even “hang out”, by dedicating more of the existing right-of-way to attractive wider sidewalks and greenspace adjacent to the roadway. Benches, sidewalk cafes, bike racks, and other amenities within the sidewalk zone also help create these people places. Trees and plantings create sidewalks on which pedestrians can enjoy



a stroll. While some of this space can be gained by narrowing existing lane widths, the majority of this space can come from areas where angle parking is converted to parallel parking. See Exhibits 8 and 9.

Additional benefits of parallel parking include:

- Best angle for drivers to see approaching vehicles and bicyclists when entering and leaving the parking space;
- Vehicles do not overhang the sidewalk
- Roadway width not dedicated to parking could be used to make lane widths more bicycle friendly;
- Headlights of angle parked vehicles would not intrude upon those dining or congregating on sidewalks in the evenings;
- Additional sidewalk widths provide a better environment to maintain a healthy urban forest and other greenspace.

Conversely, changing to parallel parking results in a somewhat greater loss of spaces which the Business Community has expressed concern with. However, as detailed in this previous narrative, the additional loss is only 4 spaces. With the new parking garage to be constructed behind the Civic Center, the Village is also looking at opportunities to free up parking for customers, particularly on the north side of the CBD. However, another consideration is that some people are not comfortable with parallel parking which was a concern raised at the Design Workshop meeting.

In terms of staff's recommendation, parallel parking is the recommended on-street parking configuration.

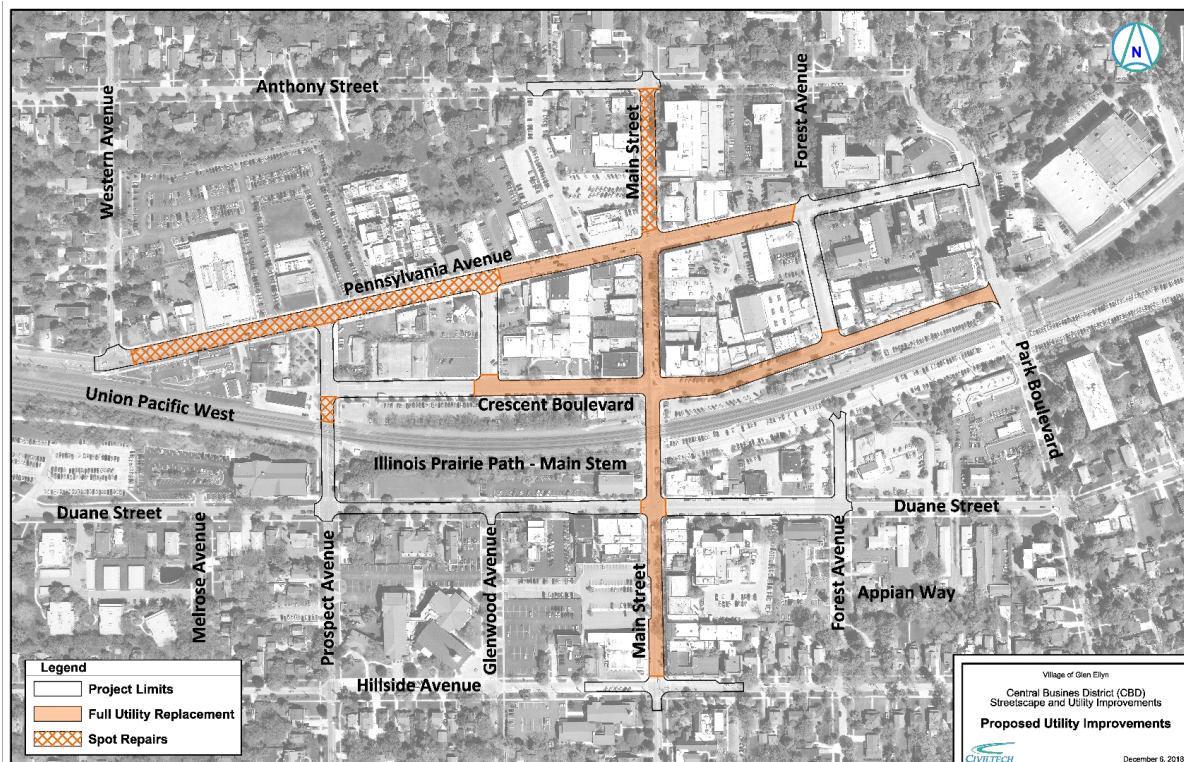
#### Scope and Budget

The Village Board last visited the budget during the February 24, 2018 Workshop. At that time the CIC provided recommendations and Village Board concurred on the rough order of magnitude cost of the various components with an understanding that preliminary cost estimate of the basic improvements still needs to be completed during the first phase of project design. The preliminary design cost estimate was completed and the updated costs are included in the table below. To clarify, the column on the left reflects the Village Board's initial budget recommendation with the column on the right being the current estimate. The initial estimates by the CIC did include costs for Phase II and Phase III Engineering.

| Recommended Budget<br>Based on a Rough Order of Magnitude Cost Estimate                                                                         |                | Preliminary<br>Estimate |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------|
| Item                                                                                                                                            | Cost           | Cost                    |
| Roadway and Sidewalk Work                                                                                                                       | \$7.7M         | \$6.9M                  |
| Upgrade Sidewalk and Crosswalk Areas to Pavers                                                                                                  | \$1.5M         | \$1.8M                  |
| Street Lighting Repairs and Installations – Conduit/Wiring Replacement, Urban Ceiling Lighting (not included), Temporary Lighting               | \$600K         | \$1.3M                  |
| Lighted Pedestrian Bollards                                                                                                                     | \$0            | \$0                     |
| Site Furnishings – Seat Walls, Benches, Bike Racks, Art (not included), Trash Receptacles, Etc.                                                 | \$300K         | Pending                 |
| Landscaping – Trees, Shrubs, Perennials, Etc.                                                                                                   | \$300K         | \$555K                  |
| Phase II Engineering (est. as 9% of Construction Cost)                                                                                          |                | \$990K                  |
| Phase III Engineering (est. as 11% of Construction Cost)                                                                                        |                | \$1.2M                  |
| <b>Totals</b>                                                                                                                                   | <b>\$10.4M</b> | <b>\$12.9M</b>          |
| Additional potential Items Not Included (Seat Walls, Fire Place, Festoon Light Area, Speaker Wiring, Custom Pods, decorative bollards) ~ \$430K |                |                         |

*Roadway and Sidewalk Work:* In calculating the costs an assumption was made that streets slated for significant amount of underground utility work will need to be fully reconstructed per the location map hereinafter. As mentioned previously, the roadway resurfacing costs may potentially be offset by a \$475,000 Surface Transportation Program grant, presuming that project is bid by September

2020 and required improvements included in the grant application lend themselves to a resurfacing application. The cost of upgrading from resurfacing to reconstructing Duane Street from Prospect to Main, and Prospect Ave from Duane to Pennsylvania is not included in this estimate, pending final assessment by the project team. The cost of sidewalks contained within the pedestrian through zones were assumed to be standard plain broom finish concrete.



*Upgrade Sidewalk and Crosswalk Areas to Pavers:* Estimate based on 3' ribbon of decorative material in the street furniture zone of the sidewalk. Included in the estimate is the highest prices materials choice. Detailed breakdown of material costs is provided hereinafter.

*Street Lighting Repairs and Installation - Conduit/Wiring Replacement, Urban Ceiling Lighting:*

Civiltech completed an initial field assessment of the existing streetlight system in the CBD and is in the process of completing of a full assessment of the system. The estimate is based on the proposed replacement of all conduit and wiring, new pole foundations, relocation of all poles and luminaires, and providing temporary lighting. Assessment and recommendations on pole replacement has not been completed but any replacement would add a significant additional expense.

*Site Furnishings - Seat Walls, Benches, Bike Racks, Art, Trash Receptacles, Etc.:* Estimate is pending but based on number and preferences of site furnishings will likely be above the recommended budget.

*Landscaping - Trees, Shrubs, Perennials, Etc:* The estimate included replacement of all trees identified for replacement due to their condition, additional tree planting needed due to changes in street

geometry and construction impact, Silva Cell system for planter areas, plantings and irrigation system. Additional discussion on this topic is included in the Trees and Tree Planters section.

*Underground Utility Work* - This estimate does not include the underground water, sanitary, and storm utility work which RJN preliminarily estimated at approximately ~\$4.75M in the attached Exhibit 16 which includes the

Pre-Final Conclusions and Recommendations from the Underground Sanitary, Storm, and Water Utility Study Report prepared by RJN Group. Staff notes that the full pre-final report has been reviewed and discussed with RJN group with more specific direction given concerning design standards, which sewer mains and services get lined vs. replaced, which redundant storm sewers can be abandoned, which redundant water mains can be abandoned, the alignment (location) of new mains, roadway drainage design improvements, and any other matters that arise.

Please note that as we work through the final design of the utility work, some improvements such as water main replacement ultimately necessitate other work such as upgrading storm and sanitary sewers to meet water main protection requirements. In addition, as we move curbs to widen sidewalks and add bump outs we have to make some relatively modest storm sewer improvements to move drainage structures to the new curb locations. Detailed design of underground improvements almost always yields additional improvements and costs. As such, RJN's preliminary estimate of ~\$4.75M will be revised and likely increase considerably as the detailed design work progress in Phase II Engineering. While not noted, other implications on utility improvement costs include how the work is phased. In other words, breaking the work down into smaller packages or phases of work will increase costs. Regardless, staff wished to provide the summary section of the report in its pre-final form for the Board's background.

*Additional Items Not Included in the Estimate* - Seat Walls, Fire Place, Festoon Light Area, Speaker Wiring, Custom Pods, and decorative bollards.

#### Sidewalks and Crosswalk Material Options

For the pedestrian through zone which is the primary, accessible pathway that runs parallel to the street and ensures adequate place to walk, a plain broom finish concrete (standard concrete) is an optimal choice of materials. It provides a durable, easily maintainable, safe, and lowest cost option walking surface. See Exhibit 10.

The street furniture zone defined as the section of the sidewalk between the curb and the pedestrian through zone in which street furniture and amenities, such as lighting, benches, utility poles, tree pits, and bicycle racks are located. This zone is typically where more decorative materials are used in the streetscape projects. Two choices of material provide the most durable and aesthetic finishes include clay fired brick and stamped colored concrete. Table below illustrates the pros and cons of each material and estimated cost of each treatment. Also see Exhibits 11-12 for photos of these material choices.

Crosswalks are marked parts of a road where pedestrians have right-of-way to cross traffic and are marked with contrasting material to make them more visible to vehicular traffic. Crosswalks also get

the most exploitation due to traffic impact, snow removal operations and salt. The project team has reviewed various options and is recommending the use of Stamped Colored Concrete as an optimal material for the crosswalks applications.

| Material Choice                         | Pros                                                                                                                                         | Cons                                                                                                                    | Cost per square foot                              | Sidewalk Furniture Zone Total Cost | Sidewalk Pedestrian Through Zone Total Cost | Crosswalks Total Cost |
|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------|---------------------------------------------|-----------------------|
| <b>Plain Broom Finished Concrete</b>    | Lowest cost option<br>Easiest to install correctly<br>Standard snowplow equipment<br>Unobtrusive aesthetic<br>Allows other elements to shine | Limited options for design<br>Uninspiring appearance<br>Some cracking possible<br>Concrete can spall and flake          | <b>\$6.00</b>                                     | <b>\$300,000</b>                   | <b>\$1,000,000</b>                          |                       |
| <b>Clay Fire Brick on concrete base</b> | Historic/timeless appearance<br>Durable material<br>Decorative aesthetic<br>Material will never fade                                         | High construction cost<br>Requires high skilled contractors<br>Special snowplowing equipment<br>Limited color options   | <b>\$30.00</b>                                    | <b>\$1,500,000</b>                 |                                             |                       |
| <b>Stamped Colored Concrete</b>         | Lower cost than brick<br>Decorative aesthetic<br>Unique and custom patterns<br>Wide range of colors/finishes<br>Creative opportunities       | Requires high skilled contractor<br>Special snowplowing equipment<br>Color may fade over time<br>Some cracking possible | <b>\$18 for sidewalks<br/>\$30 for crosswalks</b> | <b>\$900,000</b>                   |                                             | <b>\$300,000</b>      |

In terms of preference, the Public expressed an almost unanimous desire for the use of clay fired brick pavers in lieu of exposed aggregate or plain concrete at the January 26<sup>th</sup> Design Workshop. Staff prefers the look of brick pavers but notes that there are substantial cost and maintenance advantages to stamped colored concrete to consider.

### Trees and Tree Planters

Public Works has previously completed a condition assessment of the 112 trees within the CBD and identified at least 40 trees recommended for replacement. The report does not take into consideration the potential impacts of the future underground utility and streetscape work on the health and survivability of the trees. The majority of the trees identified in poor health were attributed to their confined planting area. In a downtown urban environment, it is very difficult to provide adequate planting area and soil volumes for trees to survive and flourish without sacrificing usable public space. A solution to this problem is the use of a Silva Cell system, a modular suspended pavement system that provides soil volume to support large tree growth, allowing for vertical and horizontal spread of roots, on-site stormwater management, and support of walking surfaces above. Although somewhat expensive up front, this is currently one of the best practices to ensure that trees survive and flourish in a compact urban environment. A detailed cost breakdown of projected tree related expenses is included in a table below.

| ITEM                 | UNIT  | TOTAL | UNIT PRICE      | TOTAL COST       |
|----------------------|-------|-------|-----------------|------------------|
| NEW TREES            | EACH  | 90    | \$800.00        | \$72,000         |
| SILVA CELLS          | EACH  | 30    | \$5,500.00      | \$165,000        |
| RAISED TREE PLANTERS | EACH  | 55    | \$2,750.00      | \$151,250        |
| PLANTINGS            | EACH  | 75    | \$400.00        | \$30,000         |
| IRRIGATION SYSTEM    | SQ FT | 7300  | \$6.00          | \$43,800         |
|                      |       |       | 20% Contingency | \$92,410         |
|                      |       |       | <b>Total</b>    | <b>\$554,460</b> |

Exhibits 13 and 14 show the Tree Assessment map and a Silva Cell Exhibit.

#### Public Input Coordination

A Steering Committee was organized for the project and charged in aiding in public outreach and stakeholders coordination and helping to determine the preferred design alternatives for the project. The Steering Committee consists mainly of local business owners, local community leaders, members of Village Board and Village Commissions, representative from the Glen Ellyn library, students from Glenbard West, and staff.

To date, four Steering Committee meetings were held including a State of the Downtown meeting, a walking tour of the downtown, and a Design Workshop held on January 26<sup>th</sup> at the Fire Station No. 1. The Design Workshop featured interactive ways for the public to engage in the design process, including design a street station, streetscape elements station, mobility and parking station, and kids fun station. Despite the cold weather, the event was a great success with over 50 residents, business owners, and shoppers in attendance. The various stations made learning about the project, the infrastructure needs and ways to improve it a fun and interactive process. At the same time, village staff and consulting team collected great feedback on various aspects of the project. Below is a sample feedback received at the Workshop showing preference on general approach to the project.

**I PREFER**

|                            |            |              |              |              |                               |
|----------------------------|------------|--------------|--------------|--------------|-------------------------------|
| <b>FREE PARKING</b>        | <b>24%</b> | <b>20.5%</b> | <b>20.5%</b> | <b>35%</b>   | <b>RELIABLE PARKING</b>       |
| <b>EASY TO WALK</b>        | <b>53%</b> | <b>40%</b>   | <b>0%</b>    | <b>7%</b>    | <b>EASY TO DRIVE</b>          |
| <b>QUALITY</b>             | <b>21%</b> | <b>36%</b>   | <b>32%</b>   | <b>11%</b>   | <b>FUNCTION</b>               |
| <b>EASY TO PARK</b>        | <b>20%</b> | <b>13%</b>   | <b>33.5%</b> | <b>33.5%</b> | <b>EASY TO WALK</b>           |
| <b>DOWNTOWN FOR CARS</b>   | <b>0%</b>  | <b>12%</b>   | <b>31%</b>   | <b>57%</b>   | <b>DOWNTOWN FOR PEOPLE</b>    |
| <b>OUTDOOR EVENT SPACE</b> | <b>48%</b> | <b>30%</b>   | <b>11%</b>   | <b>11%</b>   | <b>PARKING WITHIN 1 BLOCK</b> |
| <b>EASY TO DRIVE</b>       | <b>21%</b> | <b>26%</b>   | <b>36%</b>   | <b>17%</b>   | <b>EASY TO BIKE</b>           |

A full report from the January 26<sup>th</sup> Design Workshop is attached as Exhibit 15. Additionally, a project website was created, <http://downtownge.com/> as a tool for educating the public about the project and gathering input from the community.

**Budget Impact**

Depending on the Village Board's direction, there are potential impacts on the project budget as they relate to material upgrades. As noted in this memorandum, there is an estimated \$1.5M differential between plain concrete and brick pavers within areas outside of the pedestrian accessible route as well as regular asphalt vs. upgraded stamped concrete crosswalks. Given Civiltech's estimates are coming in higher than the original Rough Order of Magnitude Costs, this may be an item to consider value engineering to temper project costs.

**Strategic Plan Initiative**

This item supports the Village of Glen Ellyn Strategic Initiative Issue:

Strategic Issue I: INFRASTRUCTURE. Invest in infrastructure to meet key needs, including downtown accessibility, Village facilities, utilities and technology improvement.

**Recommendation and Action Requested**

Staff respectfully requests a discussion of, and direction on, on-street parking assessment and potential changes, budget and cost estimate, and material choices for sidewalks and crosswalks.

### **Attachments**

Power Point Presentation

Exhibit 1: Parking Spaces

Exhibit 2: Existing Parking

Exhibit 3: Proposed Angled & Parallel Losses

Exhibit 4: Proposed Angled & Parallel Parking

Exhibit 5: Proposed Parallel Losses

Exhibit 6: Proposed Parallel Parking

Exhibit 7: Crash Data

Exhibit 8: Sidewalk Width Scenarios

Exhibit 9: Sidewalk Zones

Exhibit 10: Standard Concrete

Exhibit 11: Brick Pavers

Exhibit 12: Stamped Colored Concrete

Exhibit 13: Trees Assessment map

Exhibit 14: Silva Cells

Exhibit 15: 1.26.19 Design Workshop Report

Exhibit 16: Pre-Final Conclusions and Recommendations from the Underground Utility Study Report

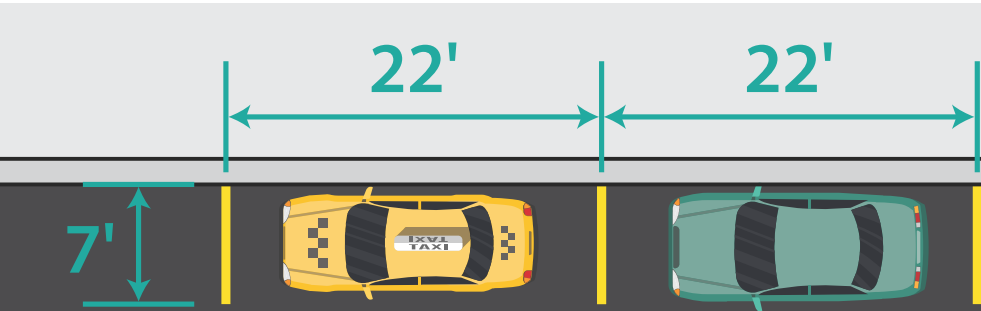
#### **ATTACHMENTS:**

- Exhibits 1 - 16 (PDF)
- CBD Streetscape VB Workshop 3-4-2019 Print to PDF (PDF)

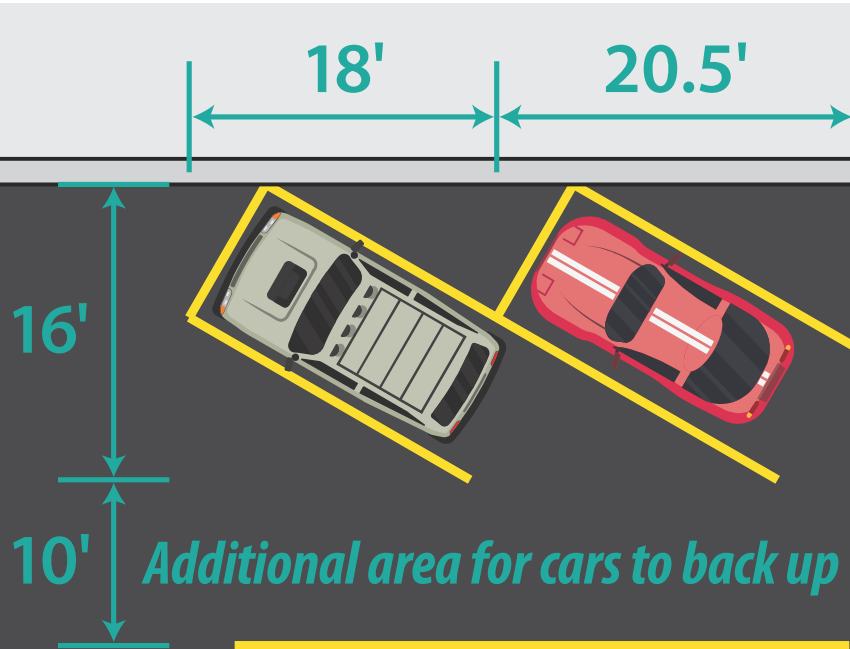


# Parking Space Options

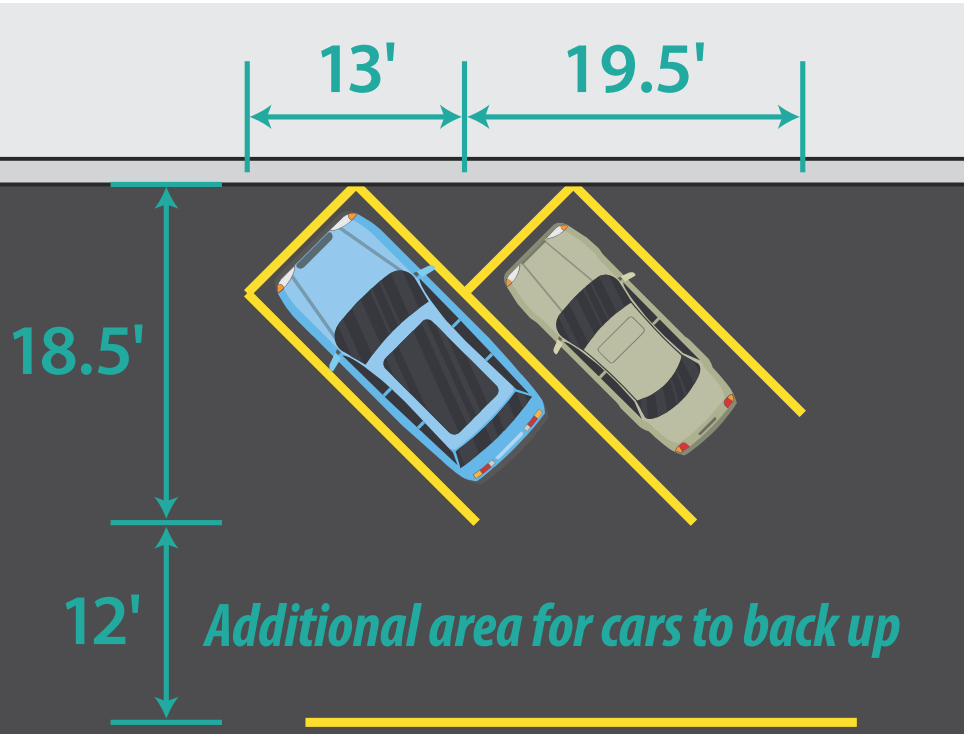
Parallel



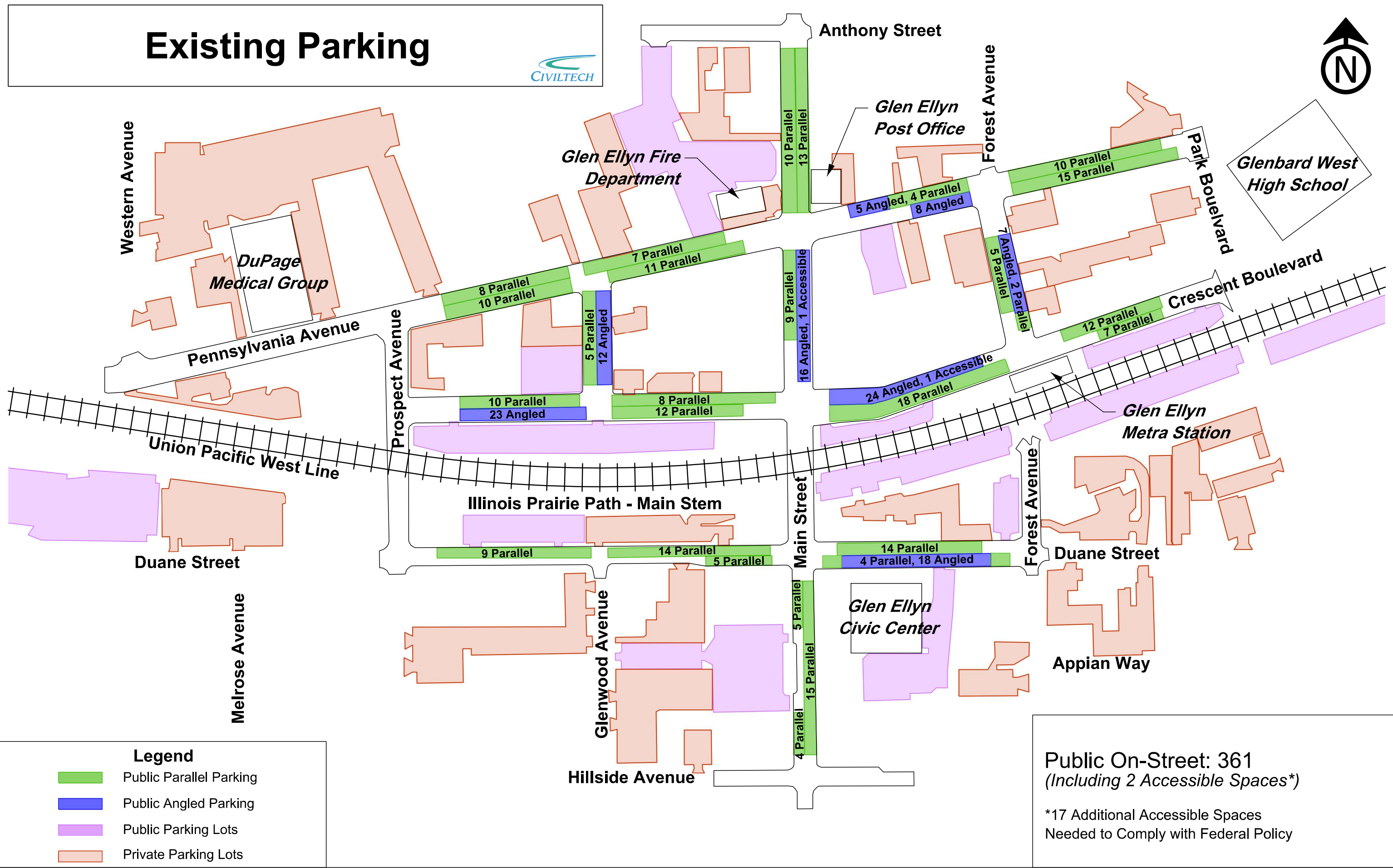
30° Angle



45° Angle



# Existing Parking



## Legend

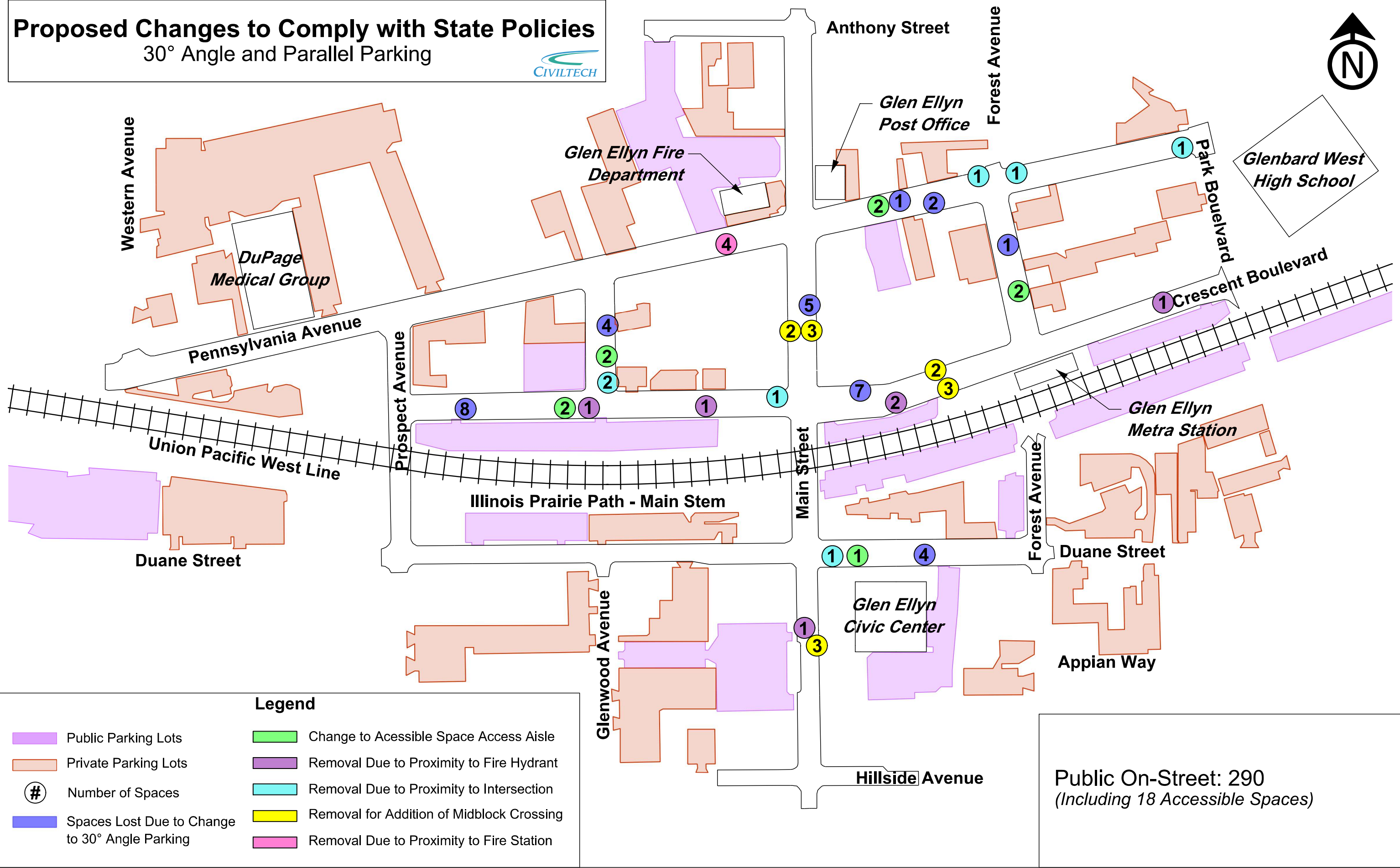
- Public Parallel Parking
- Public Angled Parking
- Public Parking Lots
- Private Parking Lots

Public On-Street: 361  
(Including 2 Accessible Spaces\*)

\*17 Additional Accessible Spaces  
Needed to Comply with Federal Policy

# Proposed Changes to Comply with State Policies

## 30° Angle and Parallel Parking

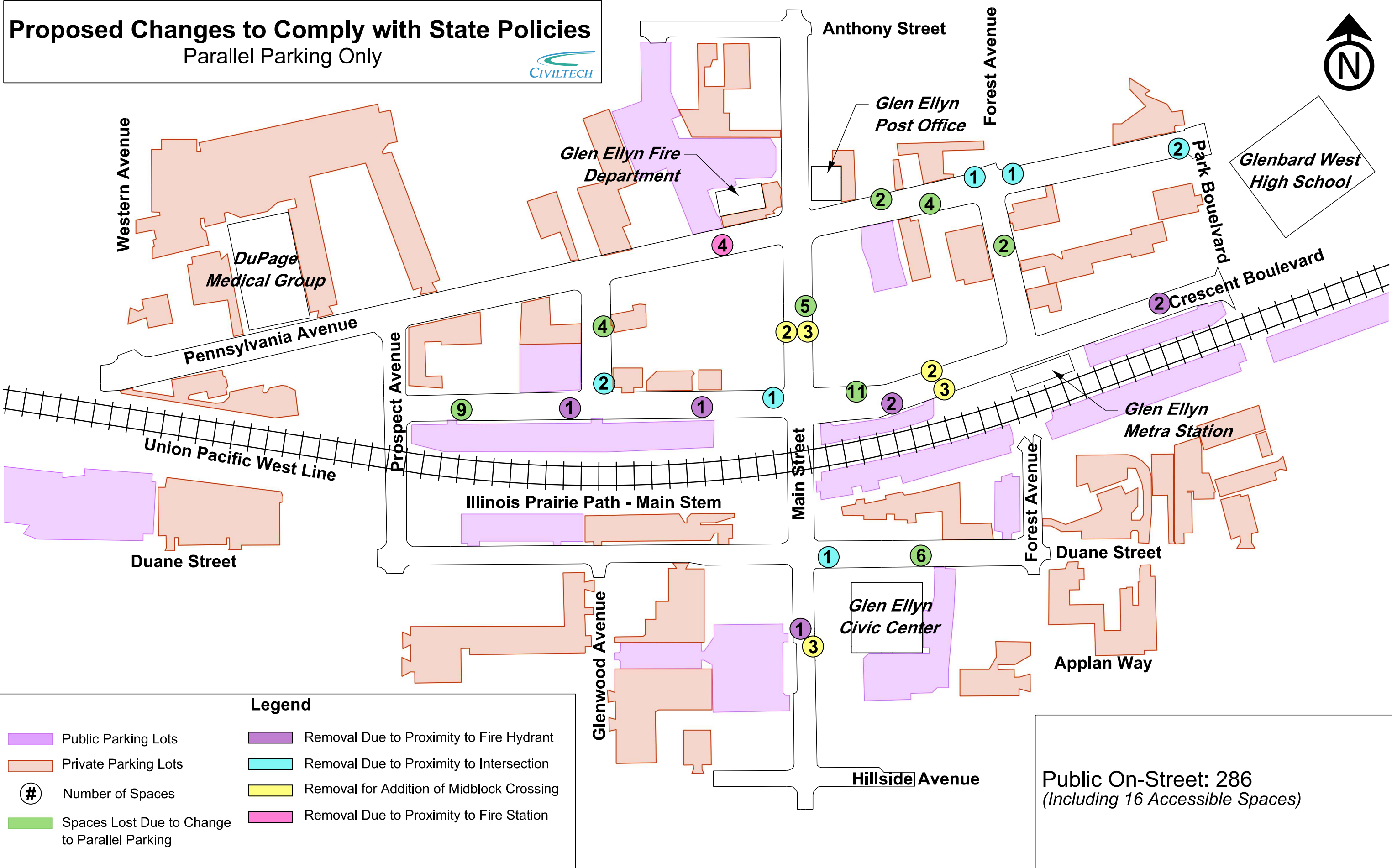






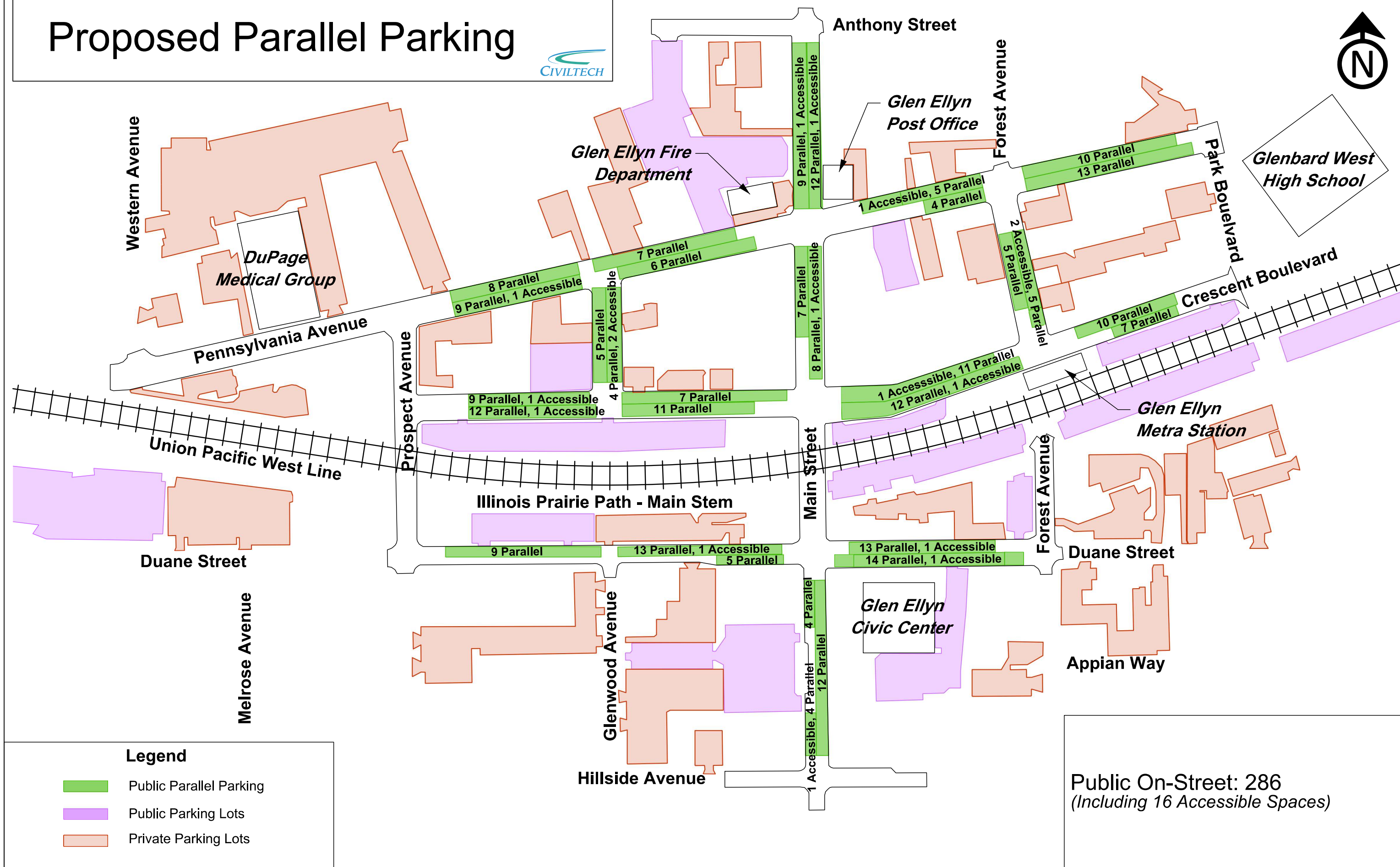
# Proposed Changes to Comply with State Policies

Parallel Parking Only



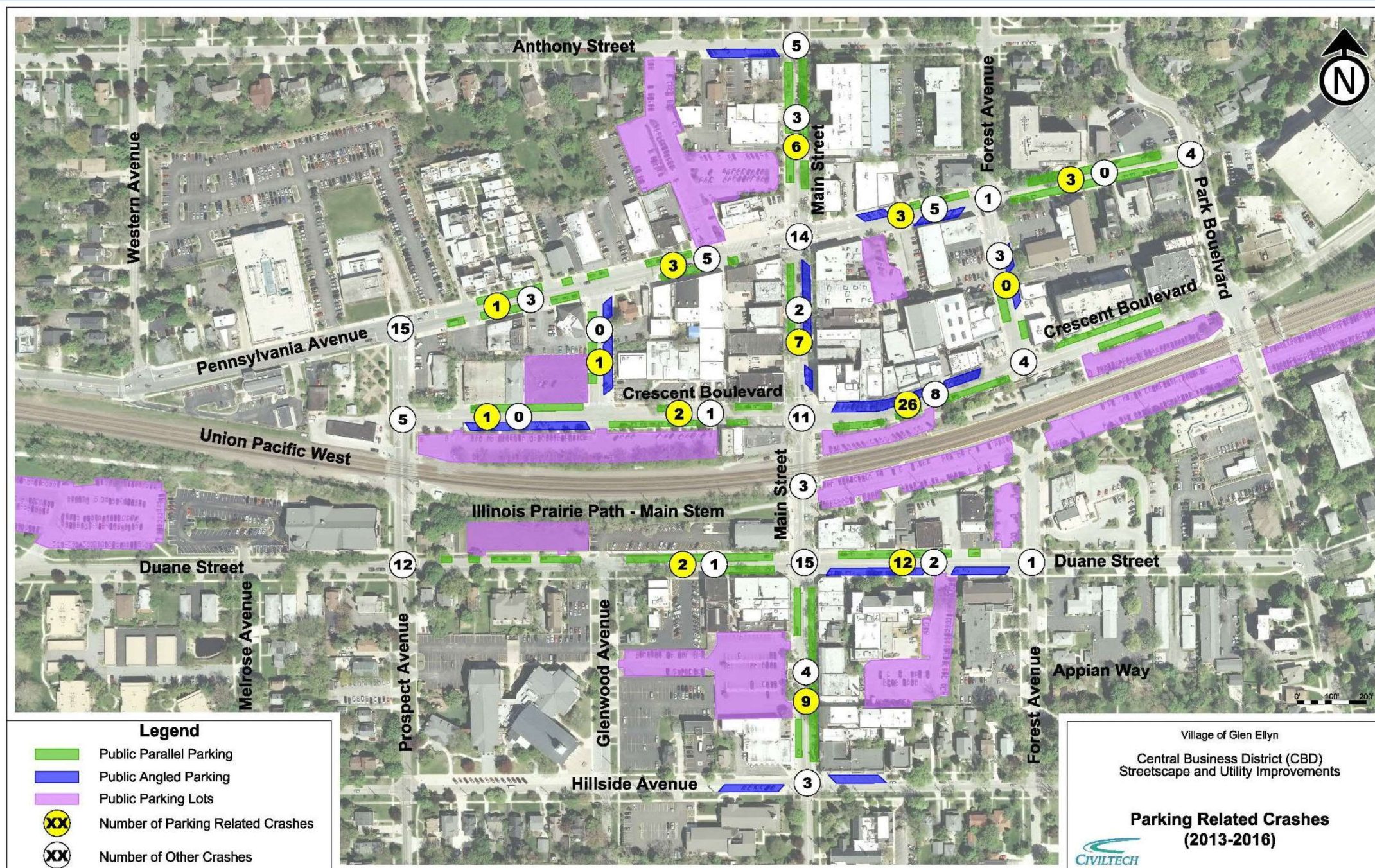


# Proposed Parallel Parking





# Crash Analysis

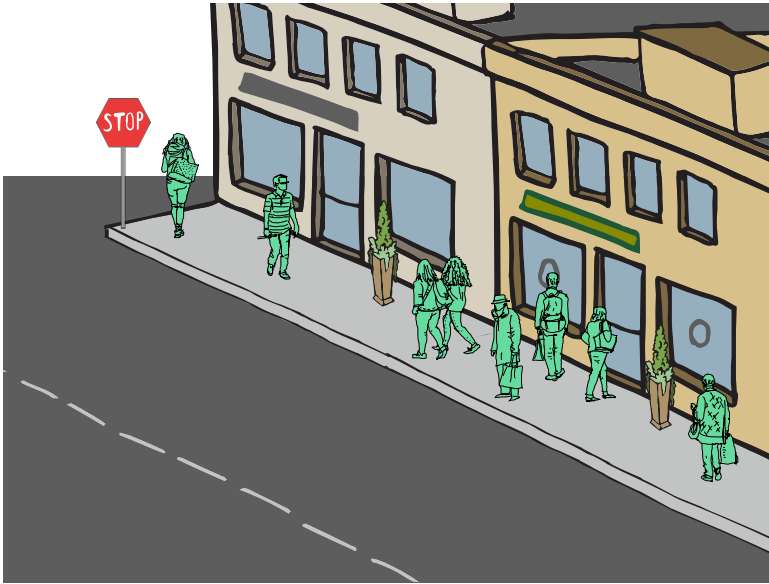




# SIDEWALK WIDTH SCENARIOS

**DESIGN  
DOWNTOWN  
GLEN ELLYN  
WORKSHOP**

**MINIMUM: 8-10'**



**STREET TREES & FURNITURE: 14-15'**



**TREES, FURNITURE & CAFES: 19'**



**PLAZA-LIKE: MAXIMUM FLEXIBILITY: ~30'**



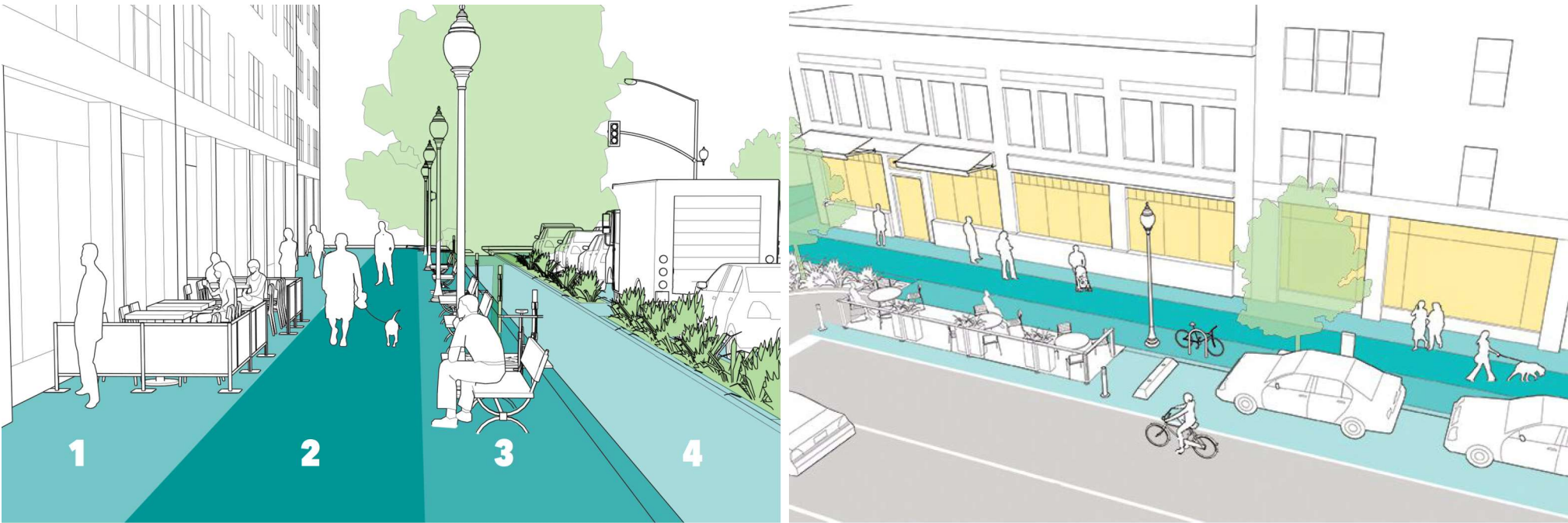
**SIDEWALKS WITH PARALLEL PARKING:**

**SIDEWALKS WITH ANGLED PARKING:**



# NAVIGATING SIDEWALK ZONES

## NAVIGATING SIDEWALK ZONES:



Sidewalks are invaluable to urban life. As public spaces, sidewalks serve as the front steps to the city, activating streets socially and economically. Wide, accessible sidewalks are fundamental and have been proven to enhance public health, draw pedestrians and shoppers, and even boost happiness!

Adopted from the National Association of City Transportation Officials' Urban Street Design Guide

### 1 - FRONTAGE ZONE

The frontage zone describes the section of the sidewalk that functions as an extension of the building, whether through entryways and doors or sidewalk cafes and sandwich boards. The frontage zone consists of both the structure and the facade of the building fronting the street, as well as the space immediately adjacent to the building.

### 2 - PEDESTRIAN THROUGH ZONE

The pedestrian through zone is the primary, accessible pathway that runs parallel to the street. The through zone ensures that pedestrians have a safe and adequate place to walk and should be 5-7 feet wide in residential settings and 8-12 feet wide in downtown or commercial areas.

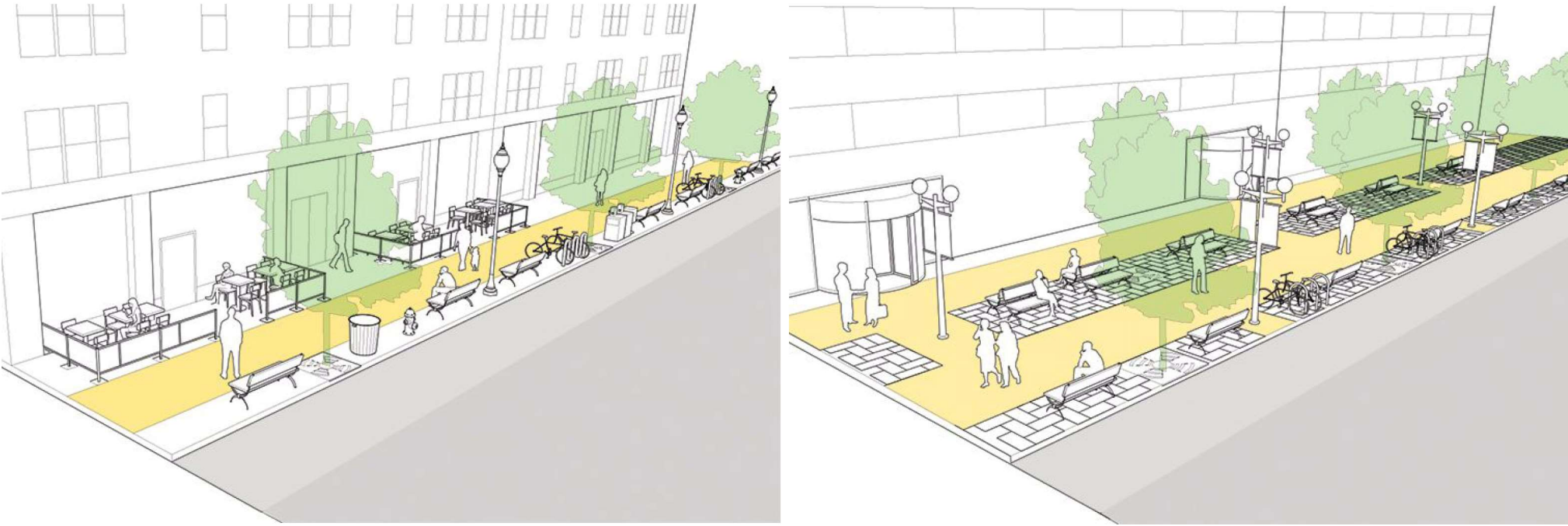
### 3 - STREET FURNITURE & CURB ZONE

The street furniture zone is defined as the section of the sidewalk between the curb and the through zone in which street furniture and amenities, such as lighting, benches, newspaper kiosks, utility poles, tree pits, and bicycle parking are provided. The street furniture zone may also consist of green infrastructure elements, such as rain gardens or flow-through planters.

### 4 - ENHANCEMENT/ BUFFER ZONE

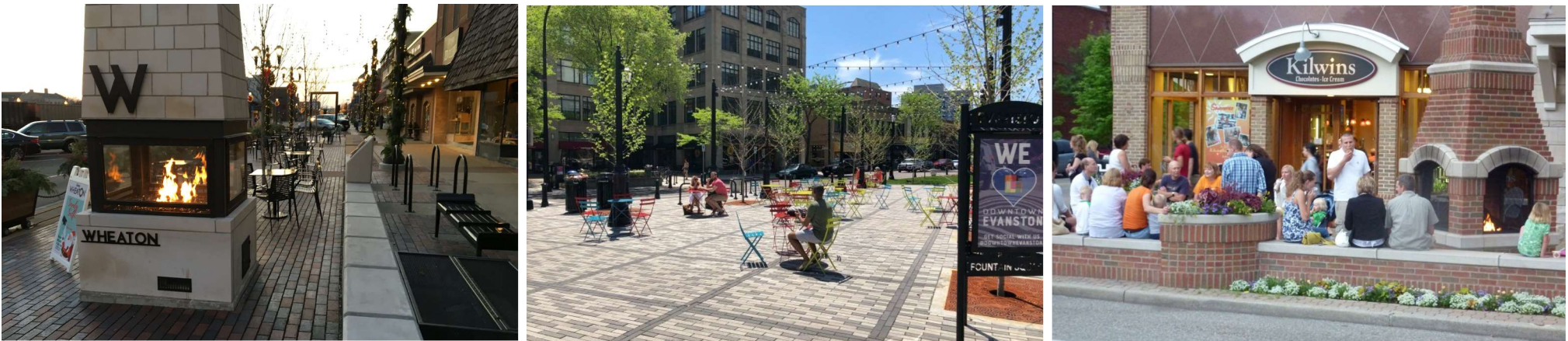
The enhancement/buffer zone is the space immediately next to the sidewalk that may consist of a variety of different elements. These include curb extensions, parklets, stormwater management features, bike racks, or even curbside bike lanes.

## WIDE SIDEWALKS = A WIN-WIN:



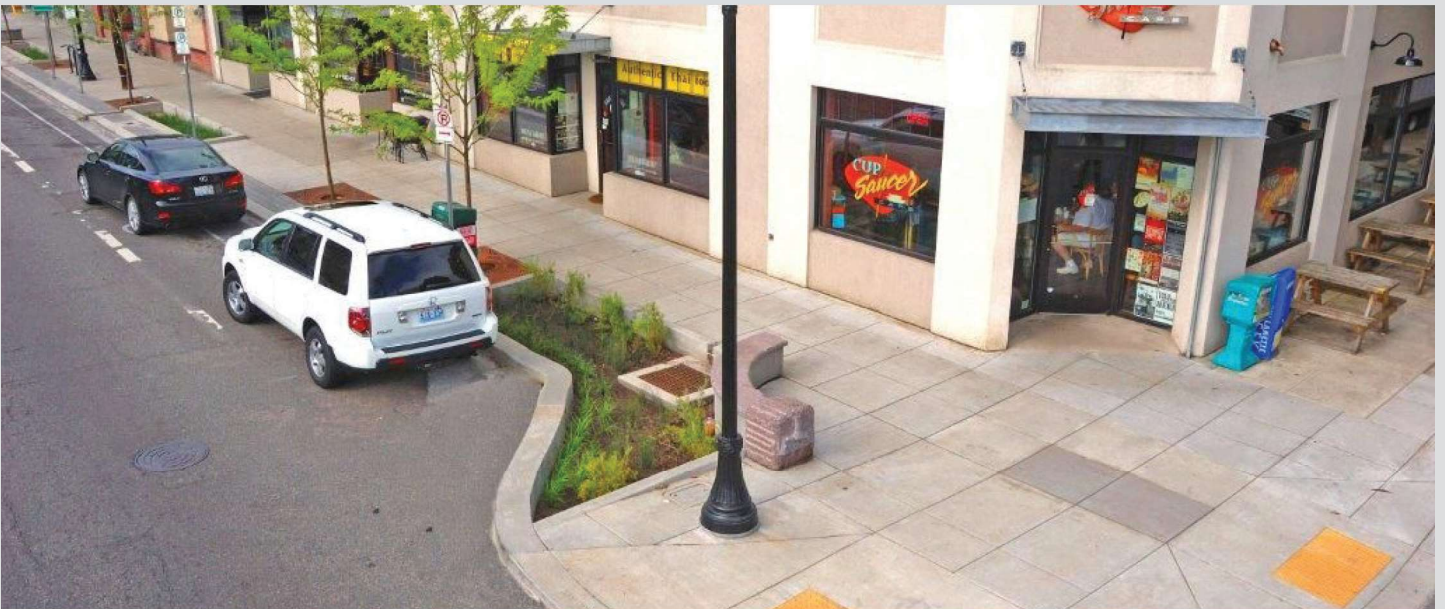
Maximizing sidewalk space requires thoughtful considerations for its many uses and needs. But there's only so much one can do with little space.

Expanding sidewalk space makes this key amenity more user-friendly, draws people and shoppers, and reclaims crucial space for various amenities.



LEARN MORE: DOWNTOWNGLEN.COM







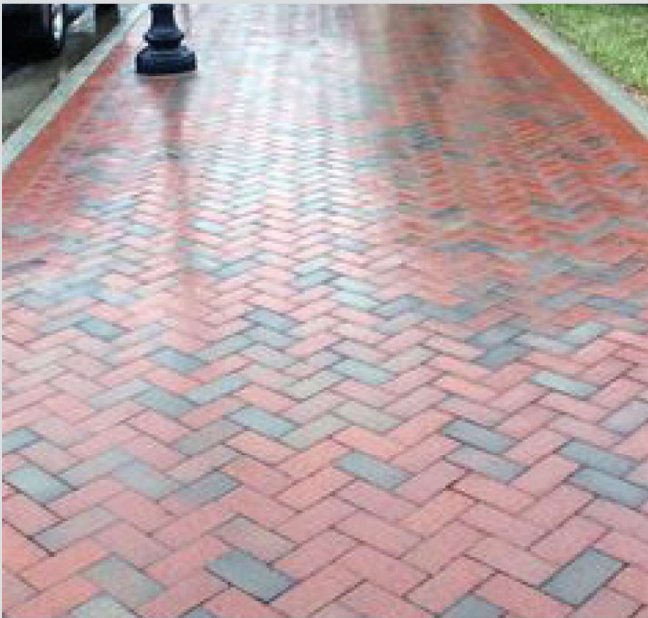


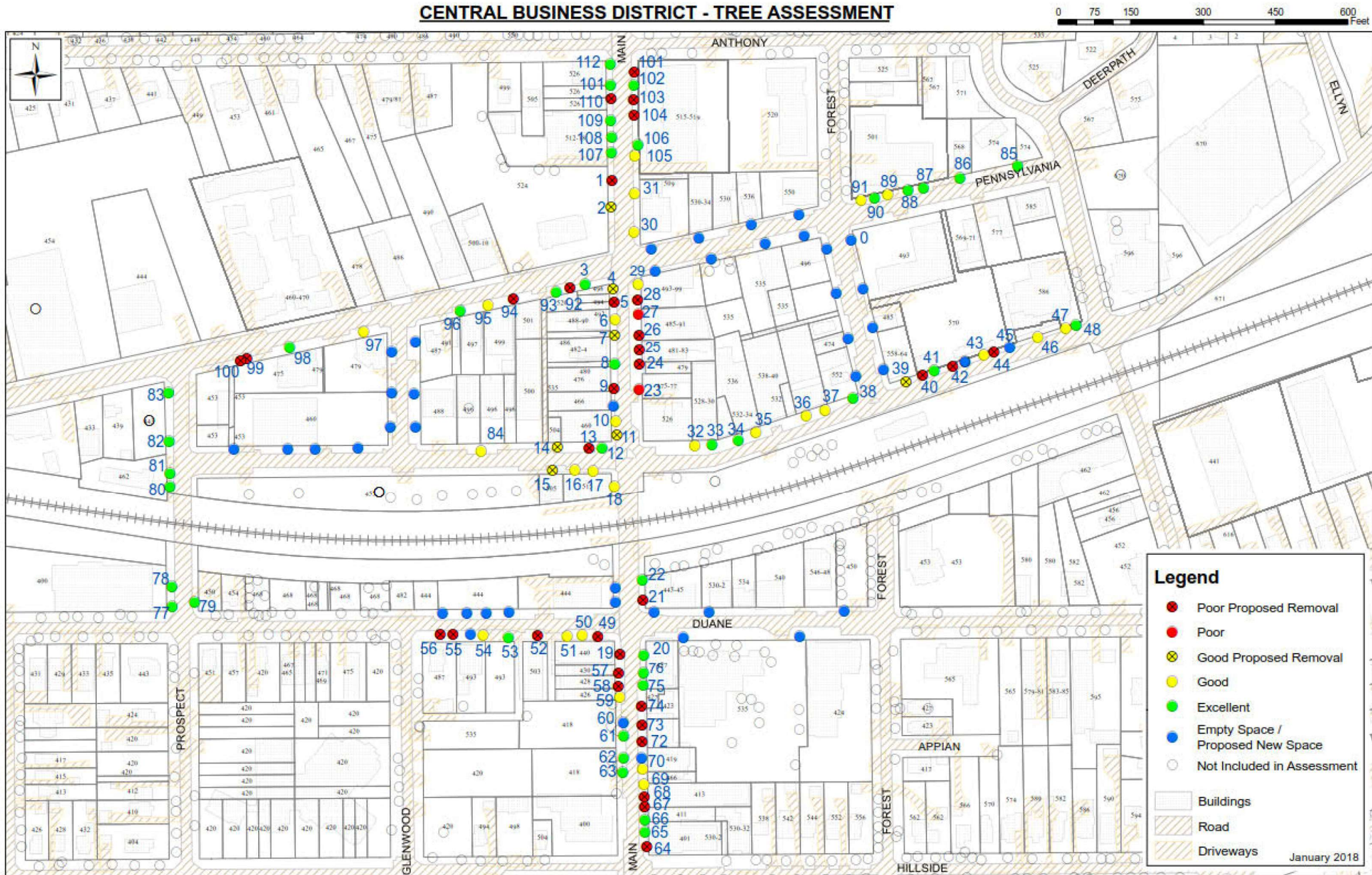
Exhibit 11





Exhibit 12







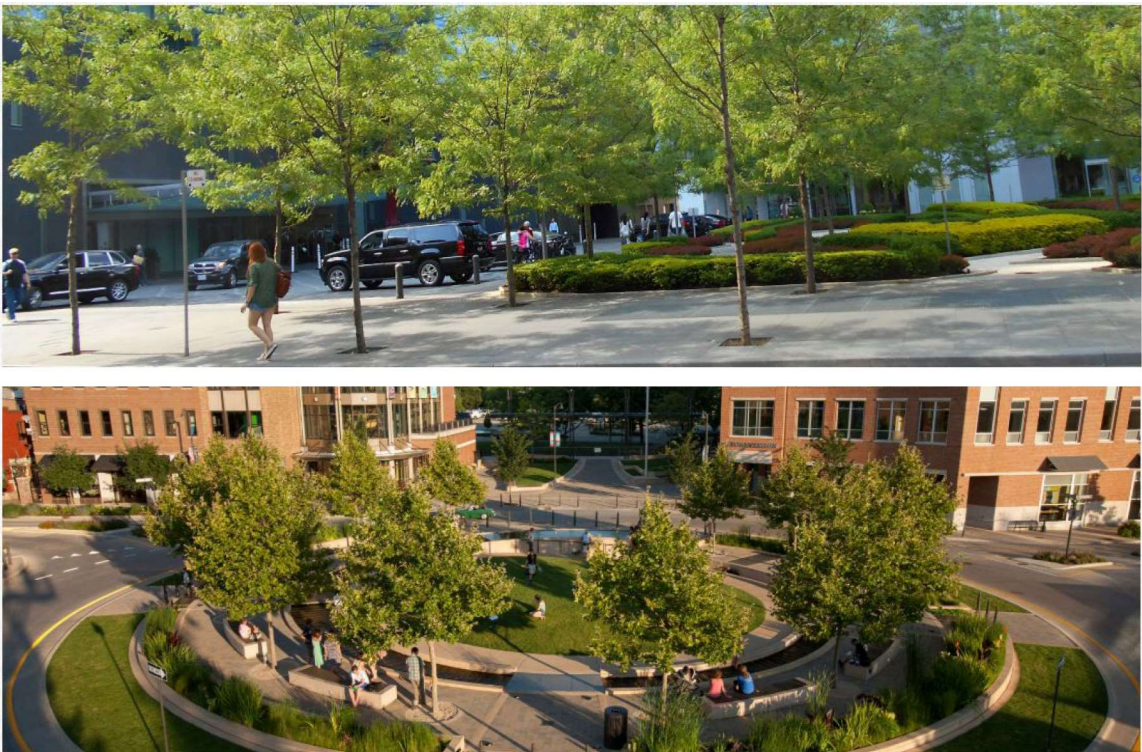
# SILVA CELLS & THEIR BENEFITS

## AVOID UNHEALTHY TREES:

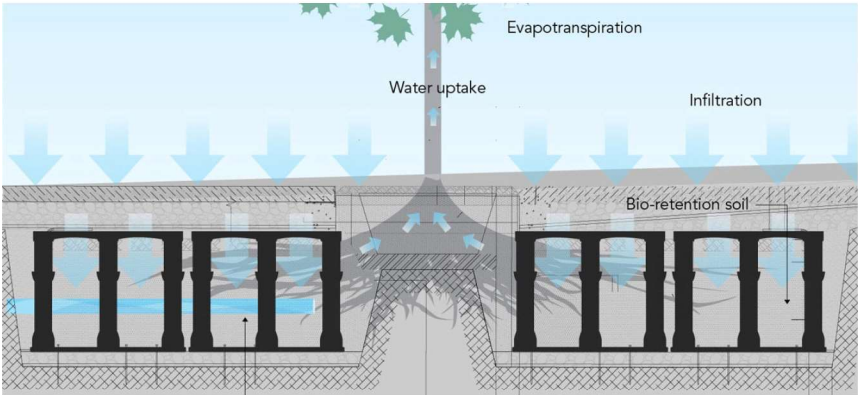
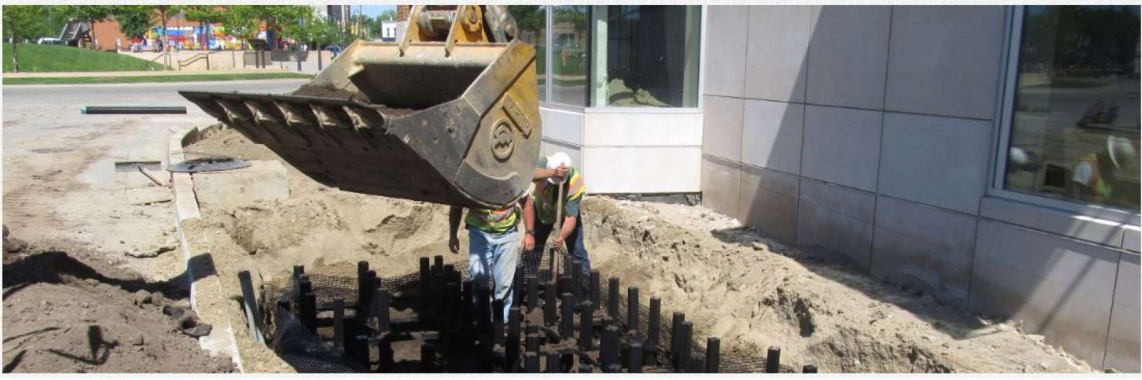
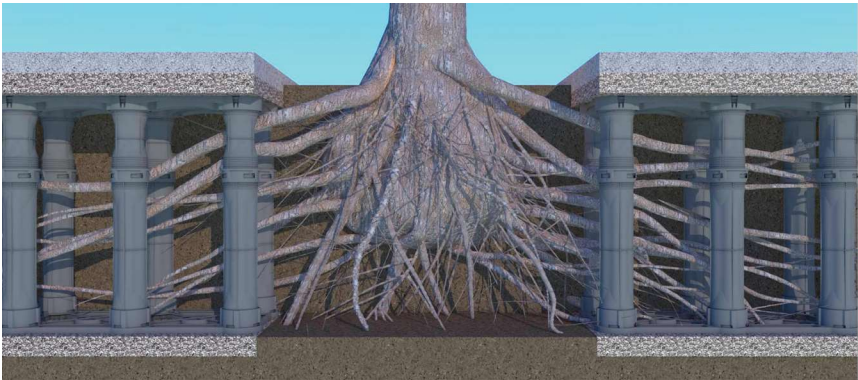


The Silva Cell is a suspended pavement system for containing unlimited amounts of healthy soil beneath paving while supporting traffic loads and accommodating surrounding utilities. The Silva Cell is filled with high-quality, uncompacted soil to grow trees and manage the rate, quality and volume of stormwater.

## PLANT TREES IN SILVA CELLS:



## HOW IT WORKS:



AASHTO H-20

- 32,000 lbs maximum per axle
- 16,000 lbs maximum per wheel
- Tire contact area is 14.25" radius

AASHTO HS-20

- 32,000 lbs maximum per axle
- 16,000 lbs maximum per wheel
- Tire contact area is 10" x 20" rectangle

ULTIMATE WHEEL LOAD BY STANDARD PAVEMENT TYPE

The table below provides the maximum load that can be on any single wheel (tire), or per axle, for a given pavement section, assuming tires have a contact area equal to either the AASHTO H-20 standard of a 14.25" radius or the AASHTO HS-20 standard of a 10" x 20" rectangle. For more details, please refer to the Silva Cell 2 Engineering Report and Testing Conclusions.

| Layer          | Thickness |
|----------------|-----------|
| Pavement       | 2A        |
| Aggregate base |           |
| Backfill       |           |
| Subgrade       |           |

The Silva Cell 2 is composed of a base, posts, and a deck. Each unit is 48" (1200 mm) long x 24" (600 mm) wide. The assembled cells transfer paving loads vertically downward to a compacted sub-base through the posts.

UTILITIES: 14"/355 mm apertures easily accommodate new or existing utilities.

STORMWATER IN/OUT: Totally open interior allows for easy movement of water into and out of the system.

FLEXIBILITY: Independent units allow maximum flexibility around existing or planned site considerations.

SPACING: Up to 6" (152.4 mm) spacing delivers soil as efficiently as possible.

|    | SOIL CAPACITY                                | HEIGHT           |
|----|----------------------------------------------|------------------|
| 1x | 13.23 ft <sup>3</sup> (0.37 m <sup>3</sup> ) | 16.7 in (424 mm) |
| 2x | 24.76 ft <sup>3</sup> (0.70 m <sup>3</sup> ) | 30.9 in (784 mm) |
| 3x | 34.50 ft <sup>3</sup> (0.97 m <sup>3</sup> ) | 43 in (1092 mm)  |

### HOW MUCH SOIL TO GROW A BIG TREE?

Example: A 16" Diameter Tree Trunk (35' Canopy Diameter) Requires 1000 ft<sup>3</sup> of Soil

Example: 1000 ft<sup>3</sup> of Soil Stores 200 ft<sup>3</sup> of Stormwater

### RATIO OF TREE SIZE TO SOIL VOLUME

Soil volumes depicted in this chart are based on the amount of roots loam soil can support with optimum compaction for root growth.

Several studies<sup>1,4,5</sup> have calculated a relationship between tree growth and soil volume. Below is an example from one such study, and its soil volume methodology:<sup>2</sup>

**Crown projection (drip line area)**

- x Leaf area index
- x Evaporation rate
- x Evaporation ratio
- = Volume of water used by tree daily (water loss)

**Water loss**

- x Percent water holding capacity of soil
- = Volume of soil (to hold water used by the tree)

**Volume of Soil**

- x Rainfall frequency (estimated number of days between rain events)
- = Volume of soil (to meet demands of the tree for a certain period of time)

## CITIES WITH SUCCESSFUL SILVA CELL INSTALLS:

1. Normal, IL
2. Berkeley, CA
3. Minneapolis, MN
4. Washington, DC
5. Boulder, CO
6. Toronto, CA
7. Edmonton, CA
8. Mississauga, CA



# DESIGN WORKSHOP REPORT

Village of Glen Ellyn | CBD Streetscape & Utility Improvements





The Village of Glen Ellyn, together with MUSE Community + Design and Civil Tech Engineering, held a Design Workshop at Fire Station 1 on Saturday, January 26th.

Timed to coincide with the annual Indoor Sidewalk Sale, the event sought input from residents and business owners on a number of topics pertinent to the Village's CBD Streetscape & Utility Improvements project.

Advertised online and via social media, the Workshop was well attended by Glen Ellyn residents of all ages, business owners, and others. Despite colder-than-usual temperatures that weekend, we handed out ~90 comment cards to attendees who provided rich commentary and insight about their preferences for future Streetscape & Utility improvements for Downtown Glen Ellyn.

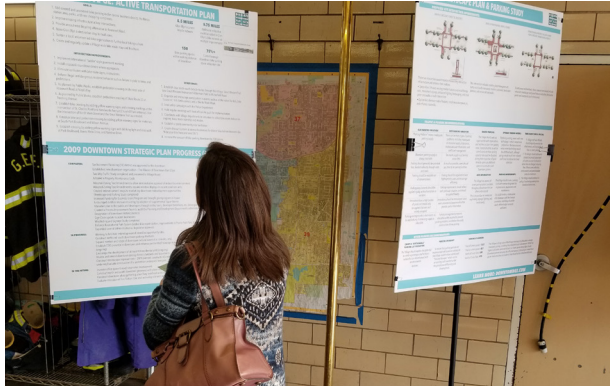
After signing in, attendees had access to six stations, each with varying degrees of interactivity, and with activities for all ages, plus informational kiosks and displays that educated or sought input from attendees.





It was designed with six interactive stations and supplemental displays where attendees could learn about, weigh in, and even vote on various aspects of the project. If attendees visited all six, they could enter a drawing for a \$50 gift card for Downtown Glen Ellyn!

## 1. ENTRY KIOSKS



After signing in, were kiosks outlined:

- Recommendations from the 2013 Streetscape & Parking Study
- Recommendations from the 2014 MoveGE Active Transportation Plan
- A 2017 update for work done since adoption of the 2009 Comprehensive Plan.

Condensing recent planning efforts for the downtown in this way provided context or a refresher for attendees, to help bring everyone on the same page regarding the status of the current project.

## 2. “DESIGN A STREET”



MUSE also brought its popular, hands-on “Design a Street” boards and dozens of magnetized pieces depicting streetscape elements such as planters, street trees, painted bumpouts, sidewalk cafes, etc. MUSE even made custom Glen Ellyn pieces depicting the Horse Trough and nearby buildings.

Designed to educate attendees about terms like bioswales, it also lets participants envision an “ideal” street section and intersection and is a sure-fire way to prompt rich dialogue with participants about what is possible and the endless ways roads can be improved, be it for pedestrian safety, cycling amenities, or even simple quality-of-life improvements.



## 3. THE FUN TABLE

MUSE designed custom coloring pages to keep youngsters occupied while their parents were at the workshop. Adults, meanwhile, could write why they loved Glen Ellyn - information that MUSE can use in future marketing for the project.



This station let locals indicate where exactly in downtown they would like to see certain improvements by placing stickers on oversize aerial printouts. Participants could place stickers for:

- Public art
- Seating
- Trash receptacles
- Bike parking
- Plaza/parklets
- Plus, an “I Prefer” board to gauge locals’ stance on various aspects pertaining to mobility and urban design.

## 5. PRIORITY



Given that funding for streetscape improvements isn’t infinite, the Village sought to gauge where locals’ priorities lie for how it can invest its dollars. Participants were each given five dollars to “spend” in six categories:

- Green space
- Stormwater
- Bicycles
- Street furniture
- Decorative sidewalks
- Amenities

## 6. MOBILITY



This station illustrated some ways the streets could potentially change under various scenarios for sidewalk expansion, changes to parking downtown, and the space trade-offs for some of the many amenities locals repeatedly ask for.

Other elements included:

- Map of routes locals take in and around downtown
- Visualizing how much parking is available downtown
- Five custom handouts on topics pertaining to mobility



## OTHERS DISPLAYS:

Attendees were also provided displays for possible locations to move the Horse Trough, info about Silva Cells, the Pros and cons of various paver options, and plans for the Metra station improvements.



gathered at the workshop. Several key themes emerged while listening to local stakeholders:

## PRO-WIDER SIDEWALKS:

Attendees seemed largely eager to see road space traded for space for pedestrians as part of growing the Village's charm.

- *"Widening sidewalks will encourage more socialization - more vibe."*
- *"I am very much for... making larger sidewalks"*
- *"Wider sidewalks seem useful for active retail."*
- *"Main - wider sidewalks."*
- *"Penn., south side at A Toda Madre - sidewalk is way too narrow."*
- *"... sidewalk widened = better..."*

## PARKING PERCEPTIONS:

Several comments point to there being a mismatch between the supply of and perception of parking in Glen Ellyn. Several comments centered on there already being sufficient parking.

- *"Residents seem to be unusually consumed by the amount & location of parking. There is plenty of parking. People just need to utilize what's there."*
- *"Additional parking is not necessary. Encourage walking as a healthy alternative. It also brings people to more stores."*
- *"Parking is not as big a problem as people say."*
- *"Glen Ellyn needs fewer automobiles, not more facilities to add them."*

## BICYCLING:

Attendees were in agreement that Glen Ellyn would benefit by adding more bike parking spaces and amenities where possible - especially near the train station.

- *"Like more bike parking + bike routes in and out of downtown area."*
- *"Bike racks along routes [Glenbard West kids take] would be helpful..."*
- *"Also think it's critical to make downtown GE more walkable & bikeable community."*
- *"More bike parking, especially south of tracks near apartments."*

## PEDESTRIAN SAFETY:

Several comments centered on understanding pedestrians' needs:

- *"Light the crosswalks at Main & Pennsylvania, making pedestrians in the crosswalks more visible. I feel invisible when crossing at night, returning from train, esp on North side of intersection."*
- *"Concerned about safety walking across intersection at the fire station - cars "push" people to cross and one man was hurt in an incident..."*

## ADDING AMENITIES:

Attendees had wide-ranging and specific comments about adding all kinds of amenities in Downtown:

- *"Keep flowers + benches so older people can walk around + sit."*
- *"Would like to see as many trees as possible. Also: benches, outdoor eating areas, fireplace, bikeracks, attractive trash cans, as much outdoor space (parklets) as possible & maintain quaint appearance of town."*
- *"Trash cans (nice ones!) are needed along walking routes that Glenbard West kids take."*
- *"Plaza: In my opinion is consistent with streetscape goals: place for people."*

## MAXIMIZING GREEN SPACE:

Attendees saw more green space as being key to this project:

- *"As much green space as possible."*
- *"I would rather see lighting, an archway sign & other greenscapes to welcome people to GE."*
- *"[With] the possibility of more social and green space, I am excited about the future of downtown GE."*

## HORSE TROUGH:

The Horse Trough is, of course a beloved local landmark. Several commented on the need to keep it as is:

- *"Leave the Horse Trough alone. It feels like every iconic part of Glen Ellyn is being destroyed this year. The town is losing its nostalgia quickly."*
- *"Please leave the Horse Trough in place."*
- *"Keep fountain & Horse Trough in center of town."*

## KAHLO EXHIBIT CONFLICT:

Several attendees expressed anxiety over this streetscaping project coinciding with the College of DuPage's 2020 Frida Kahlo exhibit and presenting the Village in the best possible way to its many attendees.

- *"Do NOT do project in 2020 when Frida is here - it would mar a once-in-a-lifetime opportunity to showcase Glen Ellyn at its best."*
- *"Don't do project in 2020 as Frida is here. We want best impression."*
- *"Don't tear up streets until close of Frida Kahlo exhibit at COD in 2020."*



## WHAT WE HEARD:

o locals for four hours yielded many rich conversations and useful anecdotes about peoples' preferences and visions for Downtown.

## SILVA CELLS:

Almost everyone liked the idea of using Silva Cells, although there were some concern about snowmelt salt getting into the trees and killing them. Generally most people quickly understood the concept, liked that we ways to grow healthy, long-lasting, trees is being considered, and wanted to see something like this approach used.

## FLEX STREET:

People responded very favorably to the idea of flex streets. Many people talked about Main Street as an ideal location for something like this. A few thought doing the entire street might be a lot and liked the idea of targeting it into 1-2 raised intersections or mid-block areas instead of doing the entire block. Several mentioned that they would go check out Batavia's River Street case study presented, the next time they were out there.

Several business owners remarked that such a design would help their older residents by removing the curbs and they liked that it'd help the space host events, festivals, and markets.

- *"LOVE flex street - do it two blocks North & South of tracks on Main St. Makes it much easier for elderly customers to walk around."*

## PAVING:

While nearly everyone prefers the aesthetic of brick paving and accents, a handful of locals voiced concerns about the maintenance of and snow clearance of pavers, despite being provided info showing that such issues are rare and multiple case studies showing how nearby municipalities handle such issues if they arise.

Others remarked that if Downtown is to add bands of brick paving, it should be permeable. Exposed aggregate did not seem to fit Downtown's aesthetic, while others thought just concrete was too plain.

## PUBLIC ART:

Several comments point to an eagerness to see more public art throughout Downtown or used as a gateway feature for the area. Some suggested having festivals to decorate any new paving that's installed, or having temporary art installations throughout Downtown.

Most liked the idea of festoon lighting and thought that such lights would look nice in Downtown. Several people were concerned that it would compete with or interfere with the traditional holiday lighting in the trees. Some suggested limiting this just to the sidewalk areas and not stringing the lights across the street, while others wanted them paired with outdoor speakers.

A few others did think that the whole idea was going overboard - one person even compared it to Las Vegas.

## OUTDOOR FIREPLACE:

Most people welcomed this idea, but a few thought it was perhaps going overboard. A couple comments centered on concern for the cost and efficiency of running something like this, with it perhaps only being on in the winter.

- *“Please don’t put in outdoor fireplace that will burn (waste!) fuel all year long. The only place I think some sort of warmer would make sense is for commuters at the train station and only when the temperature is very low.”*

## SPACE FOR PEOPLE:

Many attendees commented on the streetscape project as a means to find space for people Downtown. Other comments centered on the Village needing to create focal points in Downtown and work to spread retail and parking out from that.

- *“CBD needs a focal point. My suggestion is to integrate the streetscape efforts w/ the new train station. Create a vibrant public plaza on the West side of the new station that can link up w/ street events using Main & Crescent.”*

## STORMWATER:

Some attendees want to see including “green” stormwater management components as part of the designs. One comment remarked that water needs to be slowed on streets to decrease overwhelming Lake Ellyn and local storm drains. Others remarked on the capture, use, and purity of stormwater.

## PROJECT STAGING:

Some expressed concern about supporting businesses during the construction and with needing to maintain East-West access at all times. Another comment recommended building the parking deck first to compensate for lost parking, and to ensure the timeline is efficient - three years or under.

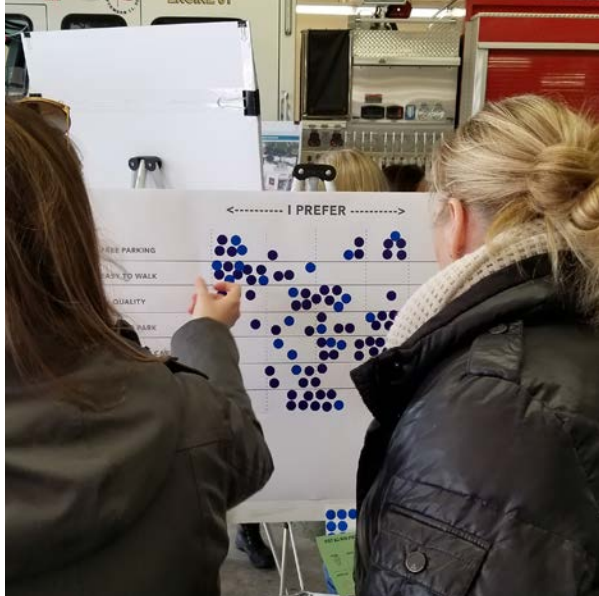


## PRIORITY STATION RESULTS:

Using their dollars - issued from “Glen Ellyn State Bank” - attendees’ most common vote was to prioritize green space investments in Downtown via planters and street trees. “Stormwater and sustainability features” was the second-most popular choice for participants.



## “I PREFER” RESULTS:



This station asked participants to place their vote along two opposed axis on seven broad questions designed to gauge their standing on topics pertaining to larger issues the project touches on.

- Strongly favor reliable parking: **35%**
- Strongly favor easy to walk: **53%**
- Somewhat prefer quality: **36%**
- Somewhat or strongly prefer easier to walk: **33.5% each**
- Strongly prefer downtown for people: **57%**
- Strongly prefer outdoor event space: **48%**
- Somewhat prefer easy to bike: **36%**

### I PREFER

|                     |     |       |       |       |                        |
|---------------------|-----|-------|-------|-------|------------------------|
| FREE PARKING        | 24% | 20.5% | 20.5% | 35%   | RELIABLE PARKING       |
| EASY TO WALK        | 53% | 40%   | 0%    | 7%    | EASY TO DRIVE          |
| QUALITY             | 21% | 36%   | 32%   | 11%   | FUNCTION               |
| EASY TO PARK        | 20% | 13%   | 33.5% | 33.5% | EASY TO WALK           |
| DOWNTOWN FOR CARS   | 0%  | 12%   | 31%   | 57%   | DOWNTOWN FOR PEOPLE    |
| OUTDOOR EVENT SPACE | 48% | 30%   | 11%   | 11%   | PARKING WITHIN 1 BLOCK |
| EASY TO DRIVE       | 21% | 26%   | 36%   | 17%   | EASY TO BIKE           |

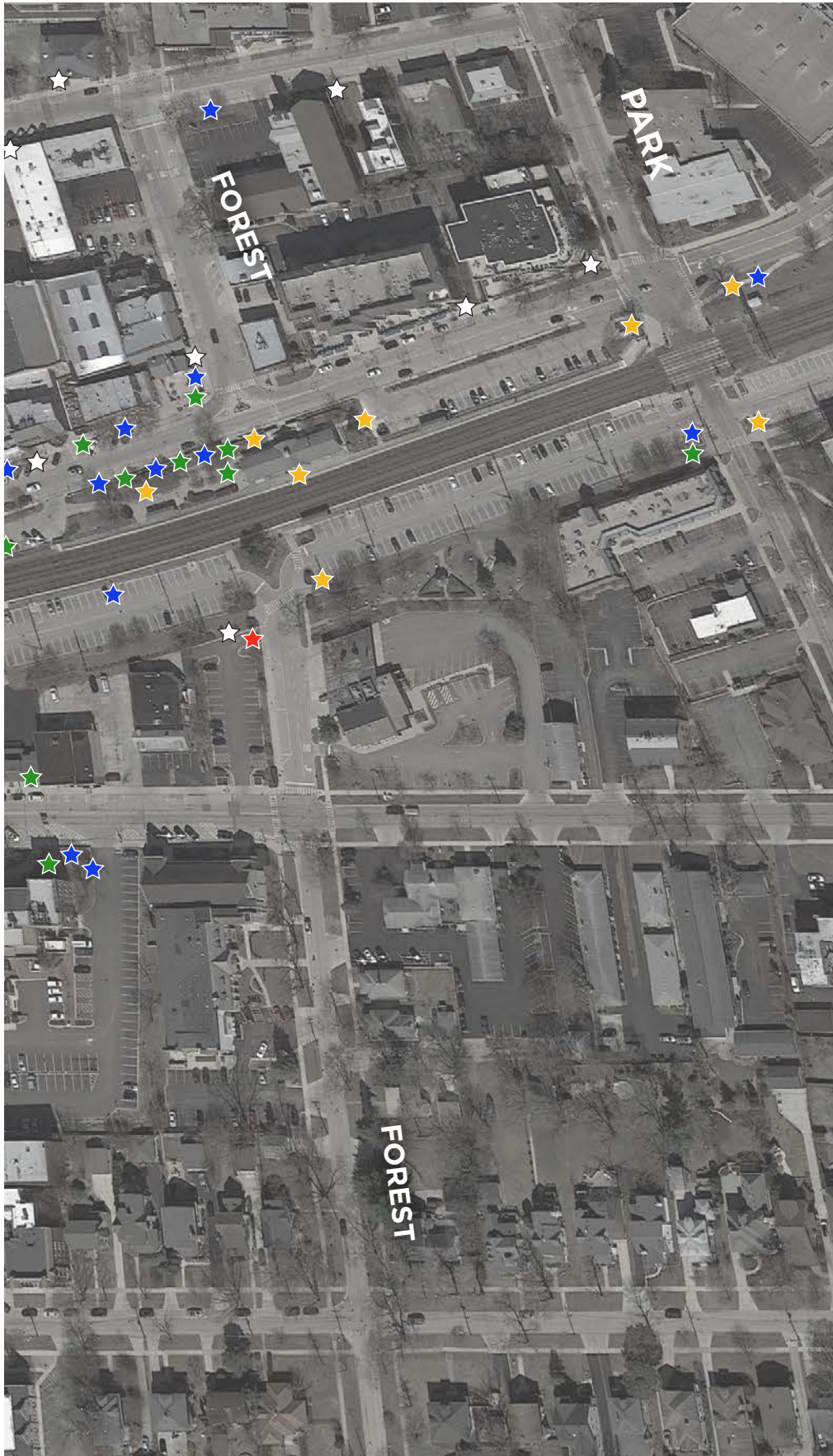


## LOCATING STATION RESULTS:

The most-commonly placed stickers were for seating and bike parking, with 35 and 33 respectively. The blocks around the Main and Crescent intersection saw the most recommendations, but stickers got spread across most of Downtown:







- ★ (24) PUBLIC ART
- ★ (35) SEATING
- ★ (20) TRASH
- ★ (33) BIKE PARKING
- ★ (22) PARKLET

Exhibit 15



## TROUGH/CHRISTMAS TREE LOCATION

Attendees were asked to weigh in on four scenarios about the locations of these two key local landmarks. Option 1 - keeping the Trough as is and placing the Christmas tree near it on Main Street received the most votes.

**CURRENT: 12 VOTES**

**OPTION 1: 18 VOTES**

**OPTION 2: 12 VOTES**

**OPTION 3  
(FUTURE RELOCATION): 8 VOTES**

## PAVER PREFERENCE RESULTS:

Attendees could also show support for three potential paving options with pros & cons and costs listed for each option. In the end, attendees largely favored the aesthetics of brick pavers, understanding that the treatment would be used largely as an accent rather than for the whole streetscaping.

**CLAY BRICK  
(SIDEWALK  
ACCENTS):  
31 VOTES**

**EXPOSED  
AGGREGATE:  
1 VOTE**

**PLAIN  
CONCRETE:  
17 VOTES**

| APPENDIX COMMENTS GATHERED & HEARD |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category                           | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Amenities                          | Keep flowers + benches so older people can walk around + sit<br>Keep fountain- & horse trough in center of town<br>More fountains                                                                                                                                                                                                                                                                                                                                                                       |
| Amenities                          | More trees + planters. Involve Morton Arboretum's professional research facilities.                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Amenities                          | Festoon Lights: Most people liked this idea and thought they'd look nice in downtown, but several people were concerned that it would compete with/interfere with the traditional holiday lighting in the trees. A few people suggested limiting it to sidewalk areas, and not stringing them across the street. A few others thought the whole idea was cheesy and going overboard, one person even comparing it to Las Vegas. Overall, I'd say it was 75% positive, 25% negative.                     |
| Amenities                          | Outdoor Fireplace: Similar to the festoon lighting, most people thought this was a cool idea, but a few thought it was cheesy and going overboard. One or two people raised concerned that this would turn into a homeless encampment and/or be a place for drug users & criminals to hang out in the winter. A couple mentioned the cost of running something like this.                                                                                                                               |
| Amenities                          | Outdoor speakers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Amenities                          | Outdoor speakers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Amenities                          | Dawn Bussey would like to see outdoor speakers and festoon lights be included in the CBD.                                                                                                                                                                                                                                                                                                                                                                                                               |
| Amenities                          | Carol White would like to see outdoor speakers and festoon lights be included in the CBD.                                                                                                                                                                                                                                                                                                                                                                                                               |
| Amenities                          | Outdoor fire pit should only be turned on in the winter                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Bicycles                           | It's critical to make downtown GE more walkable & bikeable community.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Bicycles                           | Like more bike parking + bike routes in and out of downtown area.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Bicycles                           | Need more bike places downtown.                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Bicycles                           | More bike parking, especially south of tracks near apartments. Some thought there was enough since people use street signs                                                                                                                                                                                                                                                                                                                                                                              |
| Bicycles                           | More bike racks near the train station                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Bicycles                           | Bike racks take away space on the sidewalk and should be kept on the outskirts of CBD or near the Train Station                                                                                                                                                                                                                                                                                                                                                                                         |
| Flex Street                        | LOVE flex street - do it two blocks North & South of tracks on Main St. Makes it much easier for elderly customers to walk around. But this means we need parking garage on North side of tracks with immediate access to Main.                                                                                                                                                                                                                                                                         |
| Flex Street                        | Most people really liked the idea of flex streets, and I didn't hear many/any negative reaction to this idea. Many people talked about Main Street as an ideal location for something like this. A few people thought doing the entire street might be going overboard, and liked the idea of targeting it into 1-2 raised intersections or mid-block areas instead of doing the entire block. Several people mentioned that they would go check out River St in Batavia next time they were out there. |
| Frida Kahlo                        | Please keep in mind in Summer of 2020 Frida Kahlo event coming to COD. We met with museums who have told us thousands of people attended for their exhibitions & tourism was high.                                                                                                                                                                                                                                                                                                                      |
| Frida Kahlo                        | Do NOT do project in 2020 when Frida is here - it would mar a once-in-a-lifetime opportunity to showcase Glen Ellyn at its best.                                                                                                                                                                                                                                                                                                                                                                        |



|              |                                                                                                                                                                                                                                                                                                               |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frida Kahlo  | Agree - Janet Avila, owner of String Theory Yarn Co.                                                                                                                                                                                                                                                          |
| Frida Kahlo  | We should not start streetscape construction until Fall 2020 after the Frida exhibit at COD has left.                                                                                                                                                                                                         |
| Frida Kahlo  | Please keep in mind Frida 2020 event @ COD June-Aug 2020. We met w/ museums who had the exhibition and they indicated lines + tourists coming thru @ record numbers. Hope GE + downtown can take advantage of opportunity.                                                                                    |
| Frida Kahlo  | Tear the sidewalks up in fall of 2020, not summer.                                                                                                                                                                                                                                                            |
| Frida Kahlo  | Don't do project in 2020 as Frida is here. We want best impression.                                                                                                                                                                                                                                           |
| Frida Kahlo  | Don't tear the streets in summer of 2020.                                                                                                                                                                                                                                                                     |
| Frida Kahlo  | Don't tear up streets until close of Frida Kahlo exhibit at COD in 2020.                                                                                                                                                                                                                                      |
| Gratitude    | Thank you so much for the opportunity to have input into the future plans of our beautiful Village <3                                                                                                                                                                                                         |
| Gratitude    | Between the Giesche development bringing more residents/parking, and the possibility of more social and green space, I am excited about the future of downtown GE.                                                                                                                                            |
| Gratitude    | This was a great exercise to help us all see the possibilities for downtown, while appreciating the tradeoffs of options.                                                                                                                                                                                     |
| Gratitude    | Thank you for asking the Village's opinion!! :)                                                                                                                                                                                                                                                               |
| Horse Trough | Please leave the Horse Trough in place                                                                                                                                                                                                                                                                        |
| Horse Trough | Keep Horse Trough centerpiece of GE.                                                                                                                                                                                                                                                                          |
| Horse Trough | Leave the Horse Trough alone. It feels like every iconic part of Glen Ellyn is being destroyed this year. The town is losing its nostalgia quickly.                                                                                                                                                           |
| Housing      | More low income/affordable housing in downtown area w/ access to public transportation.                                                                                                                                                                                                                       |
| Housing      | Lombard just completed proposal for a 4 story + grocery store.                                                                                                                                                                                                                                                |
| Parking      | Need a few spaces closer to businesses that allow for ~15 min customers or drop-offs.                                                                                                                                                                                                                         |
| Parking      | We should go beyond the minimum ADA compliance codes. The parking situation in GE is not as bad as many think as there is usually parking available - Perception vs. Reality. The Giesche project will pass and that, with the Avare lot will address these needs. I am excited about the train station plan. |
| Parking      | w/ parking behind Civic Center, there seems no reason to build additional parking on Main St. across from Nobel House. Does not make sense.                                                                                                                                                                   |
| Parking      | Additional parking is not necessary. Encourage walking as a healthy alternative. It also brings people to more stores.                                                                                                                                                                                        |
| Parking      | Residents seem to be unusually consumed by the amount & location of parking. There is plenty of parking. People just need to utilize what's there. Get out & walk.                                                                                                                                            |
| Parking      | We have to make downtown ADA-compliant, don't we?                                                                                                                                                                                                                                                             |
| Parking      | People don't know Daisy Park lot is there                                                                                                                                                                                                                                                                     |
| Parking      | Parking is not as big a problem as people say.                                                                                                                                                                                                                                                                |
| Parking      | Glen Ellyn needs fewer automobiles, not more facilities to add them                                                                                                                                                                                                                                           |
| Parking      | Put a parking garage over lot behind Fire Station; turn Main into a woonerf. Older adults have trouble navigating curbs and would appreciate flex street on Main.                                                                                                                                             |

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parking     | A parking deck to include large #s of Metra commuter spaces. It should include retail, shared office and affordable residential space.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Parking     | Less cars, narrower streets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Parking     | No real preference on parking. 50/50 split between parallel and angled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Parking     | Opus planned underground parking, Apex has not. Area by existing Giesche's property is a natural for underground parking as the basement has to be removed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Pavers      | Brick pavers in sidewalk locations are beautiful, they need to be installed and maintained properly. Money needs to be budgeted for annual maintenance. Look at the paver sidewalk in front of Len's Ace on Roosevelt Rd. It was a minefield, not sure if it was repaired                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Pavers      | Pavers/ped walkway mid-Forest to Duane since ppl already jay-walk so much there + also do all of above b/w Crescent + Pennsylvania for same reason.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Pavers      | Bricks would be challenging for snow removal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Pavers      | Pavers are bad for snow removal/maintenance (provide concrete base?)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Pavers      | Paving: Almost everyone I talked to likes the aesthetic of brick and wants to see it incorporated into the designs. I think the dot-voting on concrete got a bit skewed by a couple of people who hung around the board and kept telling people that brick is hard to maintain, hard to snowplow, etc. There were a couple of people that felt spending extra money on decorative paving was wasteful and that we should just go for concrete. Most of the negative reaction to bricks seemed to be around the misconception that they are difficult/expensive to maintain. The "snowplow expert" woman in particular was vehemently opposed to brick because she believes it absolutely cannot be cleared of snow, and she was not interested in hearing anything about how other suburbs have handled this. She literally gave me the number of the contractor they use for snow removal and told me to call them and they'd set me straight on why they can't clear snow from brick sidewalks. |
| Pavers      | Exposed Aggregate: No one liked these images. One person commented that we picked bad images of exposed aggregate/colored concrete and that's why no one would vote for it. My take was that people didn't think the aesthetic was right for downtown GE.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Pavers      | Combo of materials: Most people seemed to understand that we wouldn't be doing "brick everywhere", and liked the idea of combining the two materials. A few people voiced concern about settling between materials causing trip-hazards or issues with snow plowing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Pavers      | Permeable pavers: I had a couple of people asking me if we were considering this as an option. The people who brought it up felt that if we're doing brick bands anyways, we should consider making them permeable. Conversely there were a couple of people that worried about salty water getting into the tree pits and killing the trees/plants, and suggested these be in raised planters so that runoff cannot get into them. (This would require irrigation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Pedestrians | 1). Light the crosswalks at Main & Pennsylvania, making pedestrians in the crosswalks more visible. I feel invisible when crossing at night, returning from train, esp on North side of intersection.<br>2). Rail crossing for pedestrians at station.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Pedestrians | (The Village) has to get people to walk                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Pedestrians | Concerned about safety walking across intersection at the fire station - cars "push" people to cross and one man was hurt in an incident trying to cross                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |



|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pedestrians     | Need more pedestrian space                                                                                                                                                                                                                                                                                                                                                                                                     |
| Pedestrians     | Complaint about people crossing Main St at the south let of the intersection with Crescent. Anything that could be done to either prevent or make safe crossing.                                                                                                                                                                                                                                                               |
| Phasing         | Would like construction phases divided by North/South of the tracks. And one East/West street needs to be open at all times so people can drive in.                                                                                                                                                                                                                                                                            |
| Phasing         | Accelerated construction timeline for businesses.                                                                                                                                                                                                                                                                                                                                                                              |
| Phasing         | Village should build the garage first to compensate for lost parking during construction                                                                                                                                                                                                                                                                                                                                       |
| Phasing         | The project should be broken down into north and south sections                                                                                                                                                                                                                                                                                                                                                                |
| Phasing         | Most customers come in coming in from either east or west should be able to do that during the time the streets are under construction. For example, when working on Pennsylvania, leave Crescent open to traffic.                                                                                                                                                                                                             |
| Phasing         | The five or six year time period of construction, similar to Wheaton is too long                                                                                                                                                                                                                                                                                                                                               |
| Phasing         | Project should be done in about 3 years                                                                                                                                                                                                                                                                                                                                                                                        |
| Phasing         | Village to work with building owners on making improvements to private sections of water services                                                                                                                                                                                                                                                                                                                              |
| Priorities      | Priorities: 1: Flex streets; 2: Silva Cell: Normal, IL 3: Bury overhead wires                                                                                                                                                                                                                                                                                                                                                  |
| Priorities      | Silva cells, Flex Streets, Parallel Parking                                                                                                                                                                                                                                                                                                                                                                                    |
| Quality of Life | CBD needs a focal point. My suggestion is to integrate the streetscape efforts w/ the new train station. Create a vibrant public plaza on the West side of the new station that can link up w/ street events using Main & Crescent.<br>Make this plaza the go-to spot for commuters, restaurant-goers, bikers, walkers, etc. When someone mentions Glen Ellyn, this central plaza would be the spot/ entity one would think of |
| Quality of Life | No need for underpass<br>Build new train depot<br>No need for more business space<br>Encourage ground-floor space at near multi-unit construction to be dedicated to building's amenities, not retail storefronts.                                                                                                                                                                                                             |
| Quality of Life | Would like to see as many trees as possible. Also: benches, outdoor eating areas, fireplace, bikeracks, attractive trash cans, as much outdoor space (parklets) as possible & maintain quaint appearance of town.                                                                                                                                                                                                              |
| Quality of Life | Trash cans (nice ones!) are needed along walking routes that Glenbard West kids take before, during lunch & after school - down Pennsylvania & Crescent Aves from the West to the East near venues they visit for drinks, snacks. Bike racks along these routes would be helpful as well.                                                                                                                                      |
| Quality of Life | I would rather see lighting, an archway sign & other greenscapes to welcome pple to GE. I love the Normal, IL Silva cell pics + think that would make downtown more functional + centered.                                                                                                                                                                                                                                     |
| Quality of Life | <ul style="list-style-type: none"> <li>• More bike parking</li> <li>• Alfresco dining - sidewalk cafe</li> <li>• Cobblestones</li> <li>• Planters - fireplace?</li> <li>• Decorative sidewalks</li> <li>• Stormwater</li> </ul>                                                                                                                                                                                                |
| Quality of Life | Try to maintain the number of trees lining Main St.                                                                                                                                                                                                                                                                                                                                                                            |

|                 |                                                                                                                                                                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Quality of Life | Please don't put in outdoor fireplace that will burn (waste!) fuel all year long. The only place I think some sort of warmer would make sense is for commuters at the train station and only when the temperature is very low.                        |
| Quality of Life | yearly paver art?                                                                                                                                                                                                                                     |
| Quality of Life | keep historic charm                                                                                                                                                                                                                                   |
| Quality of Life | Many residents preferred trees, outdoor eating, horse trough, lighting                                                                                                                                                                                |
| Quality of Life | Street Art (if its good) also only temporary - would prefer rotating art. One resident suggested placing art as you enter downtown.                                                                                                                   |
| Quality of Life | Village needs to create focal points and spread retail/parking out from that                                                                                                                                                                          |
| Quality of Life | DO NOT TOUCH MAIN/CRESCENT - multiple people mentioned this                                                                                                                                                                                           |
| Quality of Life | Village garbage cans that can be sealed off during events. Events have their own garbage cans, and village cans shouldn't be used for these.                                                                                                          |
| Quality of Life | Few residents concerned about homeless - want to make sure ped. improvements don't encourage camping. Also don't want homeless to camp overnight on outdoor dining areas                                                                              |
| Quality of Life | One resident said too many kids hang out on street corners and curb bumpouts will only encourage it and bring them closer to traffic                                                                                                                  |
| Quality of Life | Promenade idea proposed by Opus in 2015 was well-liked. A gathering place after dinner would be great. A gathering destination that keeps people downtown to shop.                                                                                    |
| Quality of Life | A GE official was thrilled when she learned Red Hound was going to have a roof top gathering space.                                                                                                                                                   |
| Quality of Life | More public seating access                                                                                                                                                                                                                            |
| Quality of Life | Concerns with APEX 400 development                                                                                                                                                                                                                    |
| Sidewalks       | Like the look: ADA parking, outdoor eating, more bike parking/trash cans, sidewalk widened = better, snow removal.                                                                                                                                    |
| Sidewalks       | If wider sidewalks are installed, then GE needs to better maintain them, including snow removal.                                                                                                                                                      |
| Sidewalks       | Widening sidewalks will encourage more socialization - more vibe. All compliant is a must-have if are to be a village that is truly inclusive and I would encourage us to over-index here.                                                            |
| Sidewalks       | I am very much for improving safety & aesthetics of Main St, esp between Forest to Duan, making larger sidewalks (keep parallel parking), using flex streets.                                                                                         |
| Sidewalks       | Main - wider sidewalks                                                                                                                                                                                                                                |
| Sidewalks       | Wider sidewalks seem useful for active retail.                                                                                                                                                                                                        |
| Sidewalks       | More walking. More green space. Bigger/wider sidewalks (café) Architecture important.                                                                                                                                                                 |
| Sidewalks       | Penn, south side at A Toda Madre - sidewalk is way too narrow.                                                                                                                                                                                        |
| Sidewalks       | One resident said street side dining bad idea - doesn't want to eat with risk of getting hit by speeding car... same guy said speeding/car volumes are not a problem. suggested sidewalks be routed closer to roadway and dining closer to buildings? |
| Sidewalks       | Streetscape planning is looking for space for people. For example Main & Crescent by Horse Trough.                                                                                                                                                    |
| Sidewalks       | Plaza: In my opinion is consistent with streetscape goals: place for p                                                                                                                                                                                |



|                |                                                                                                                                                                                                                                                                                                                                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sidewalks      | The sidewalk on north side of Pennsylvania east of Crescent is wide enough                                                                                                                                                                                                                                                           |
| Sidewalks      | Widen the sidewalk on south side of Pennsylvania next to A Toda Madre                                                                                                                                                                                                                                                                |
| Sustainability | Add green space/trees wherever possible                                                                                                                                                                                                                                                                                              |
| Sustainability | I would love to consider sustainability w/ the Silva cell proposal & also would like from the 2009 Plan proposal to bury wires. I love the Civic Center garage proposal (as long as it isn't taller than Civic Center & Church) & consider creating the commuter parking by library as another home for a garage.                    |
| Sustainability | Water needs to be slowed on streets to decrease overwhelming of Lake Ellyn & the storm drains                                                                                                                                                                                                                                        |
| Sustainability | Stormwater capture, use, purity.                                                                                                                                                                                                                                                                                                     |
| Sustainability | As much green space as possible                                                                                                                                                                                                                                                                                                      |
| Sustainability | Silva Cells: Almost everyone liked the idea of using Silva Cells but there were a few that raised concerns about snowmelt salt getting into the trees and killing them. Generally most people quickly understood the concept, liked that we were considering ways to grow healthy trees, and wanted to see something like this used. |
| Sustainability | Including "green" stormwater management components should be part of the design                                                                                                                                                                                                                                                      |
| Sustainability | Storm sewer improvements with concessions for private drainage an connections should be included in the projects                                                                                                                                                                                                                     |
| Sustainability | Drainage issues on the property at 501 Forest                                                                                                                                                                                                                                                                                        |
| Transit        | Is Pace part of this discussion?                                                                                                                                                                                                                                                                                                     |
| Wayfinding     | Need clear signs indicating the alley b/t the Bookstore & Gather + Collect. People park there and trash cannot be picked up.                                                                                                                                                                                                         |
|                |                                                                                                                                                                                                                                                                                                                                      |
|                |                                                                                                                                                                                                                                                                                                                                      |

## SECTION 3

# CONCLUSIONS AND RECOMMENDATIONS

PRE-FINAL





### 3. CONCLUSIONS AND RECOMMENDATIONS

The Village of Glen Ellyn is taking a proactive approach to planning for the Central Business District streetscape work, by investigating and planning for rehabilitation of the underground infrastructure in the CBD prior to the work above ground. The work that RJN is documenting in this report is what has been completed to date, what remains, what the findings are from these investigations, and recommendations for the Village to move forward with rehabilitation of these underground assets.

As discussed, RJN has performed smoke testing, structure inspection, sub centimeter manhole survey, sewer main and lateral televising, dyed water flooding, water main acoustic testing, and building inspections. The remaining tasks include dye tracing, some mains that need to be televised near the UPRR, as well as selected mains and laterals that still need to be televised. In addition, there are approximately 34 buildings that have not been inspected. Portions of this work are planned to be finished during the streetscape preliminary design, however, some will need to be discussed with Village Staff to determine the approach.

Table 8 shows the estimated quantities in the CBD area, what has been completed and what remains.

Table 8 - Investigations Status

| Investigation Type                         | Unit | Quantity Total | Quantity Completed | Quantity Remaining |
|--------------------------------------------|------|----------------|--------------------|--------------------|
| Smoke Testing                              | LF   | 12,440         | 12,440             | -                  |
| Structure Inspections - Sanitary Manholes  | EA   | 71             | 70                 | 1                  |
| Structure Inspections - Storm Manholes     | EA   | 152            | 146                | 6                  |
| Structure Inspections - Storm Inlets       | EA   | 64             | 58                 | 6                  |
| Structure Inspections - Storm Catch Basins | EA   | 130            | 128                | 2                  |
| Structure Survey - Sanitary Manholes       | EA   | 31             | 31                 | -                  |
| Structure Survey - Storm Structures        | EA   | 44             | 44                 | -                  |
| Televising - Sanitary Mainline             | LF   | 13,880         | 13,880             | -                  |
| Televising - Storm Mainline                | LF   | 23,780         | 22,360             | 1,420 <sup>1</sup> |
| Televising - Sanitary Laterals             | EA   | 291            | 240                | 51                 |
| Televising - Storm Laterals                | EA   | 221            | 182                | 39                 |
| Water Main Assessment                      | LF   | 7,950          | 7,950              | -                  |
| Dyed Water Flooding                        | EA   | 3              | 3                  | -                  |
| Building Inspections                       | EA   | 161            | 127                | 34                 |
| Dye Tracing                                | EA   | 56             | -                  | 56                 |

1. Quantity includes TV which cannot be completed due to UP-West railroad and access issues.

#### 3.1. CONCLUSIONS

The underground infrastructure in the Glen Ellyn CBD ranges from over 100 years old to less than 10 years old. The goals of the investigation work included field verification and updating of the Glen Ellyn CBD underground asset inventory and the assessment of those assets for structural integrity and operational and maintenance performance.

### 3.1.1. Asset Inventory

Field verification showed that the current sanitary sewer and water inventories in the Village GIS were both reasonably close to what was noted in the field, requiring only minor updates. However, the storm sewer system required hundreds of changes to the GIS to accurately reflect what is present in the field. Having a more accurate underground map will be a benefit as the Village moves forward with the streetscape, as well as providing a better tool for operations and maintenance of these systems.

### 3.1.2. Sanitary Sewer

Generally, the sanitary sewer is in good shape. Several laterals were identified as having clear water running, indicating a possible leaking lateral or connected foundation drain in an area with high ground water. About half of the sanitary sewers in the CBD are not lined, and based on the televising performed, only about 2,500 linear feet are recommended for lining. There are four locations where point repairs are recommended. It is recommended that all sanitary manholes have new adjustment rings, along with external chimney seals added, as part of the streetscape. Brick or block manholes were recommended for lining and/or grouting. Two areas north of Crescent, along Main and along Glenwood, should be considered for follow up investigation.

Figure 7 - Evidence of High Water Level



- The sewer along Glenwood Avenue (2-186 – 2-017) is lined. However, five services were reinstated on that line, three are capped and the other two appear abandoned. From the main line TV, it looks as though this sewer flows full and is contributing significant I/I to the sanitary sewer. There is one potentially active connection into the manhole. Options include either abandoning this sewer, sealing the reinstated inactive laterals from the outside, re-lining this reach of sewer with a 3-4 mil liner with no reinstatements, or replacement.
- The two sewers along Main Street (2-209 – 2-208 and 2-210 – 2-019), as well as the manholes 2-209 and 2-210 need rehabilitation. The north sewer, 2-209 – 2-208, is a cross bore through the storm manhole RJN-MB205-A. It is recommended that this cross bore be removed and the possibility of routing the flow from the north leg to the south leg (2-210 – 2-019) be investigated.

The overall recommendations for sanitary sewer mains are listed in Table 10 and shown in Exhibit 7-2 in Appendix A:7.

### 3.1.3. Sanitary Sewer Laterals

The televising of the laterals was performed from the sewer main or manhole. Laterals with a cap visible from the main were not televised. Recommendations for laterals were limited to the following general categories – laterals that are abandoned and should be sealed, laterals that should be replaced, laterals that should be lined, and laterals that need additional follow up. The sanitary lateral recommendations are listed in Appendix J.

Abandoned laterals can be large sources of I/I in the sanitary sewer. And for those sewer mains that are recommended for lining, these abandoned laterals should not be reinstated. In general, lining of laterals from the main, using a full wrap liner, is less disruptive to residents and businesses. It does, however, require the installation of a cleanout if the liner will extend more than approximately 10 feet. In some locations, where lining is not possible due to a collapse or large joint offset, a point repair may be required. In those cases it may be more cost effective to simply replace the lateral.

Sanitary laterals were mapped onto the sanitary mainline based on the tap observations from the mainline television. The sanitary sewer laterals are displayed on Exhibit 3-3 in Appendix A:3.

#### 3.1.4. Storm Sewer

Many of the storm sewers, which are relatively shallow, have been subjected to excessive surface loading. This is exhibited by sewers with multiple hinge-type fractures that need replacement or rehabilitation. The storm sewers that run under the UPRR also exhibit poorer condition in general. In this report RJN recommends some storm sewers for lining, some for replacement, and some for either lining or replacement. Because of the work being done on the surface, and the fact that many of the sewers are shallow and short, it may be more cost effective to replace a sewer than line the sewer. In some of the situations where lining is recommended, the use of fiberglass liner is recommended.

It is recommended that some of the storm sewer structures be replaced, and while some structures are recommended for frame and adjustment work, it is assumed that all of the storm structures will receive new adjustments as part of the street scape program.

It is recommended that some of the break-in connections in the storm system be repaired. It may be that these were done prior to firm establishment of engineering standards for connections in the storm sewer. However, the Village should review these standards to prevent these types of connections in the future.

The removal of cross bores through the storm sewer is something that should be addressed as a follow-up to this study. The storm sewer on the south side of Pennsylvania Avenue between Main Street and Forest Avenue has one cross bore through the sewer and two cross bores through manholes. In addition, the storm sewer on the south side of Crescent Boulevard west of Main Street has two cross bores, one each through two manholes in that area. Removal of as many of these cross bores as possible is recommended.

The 12" storm sewer under the UPRR tracks along Main Street shows signs of excess loading from the surface. This sewer is recommended for fiberglass lining, that has a higher strength modulus and will provide the strength needed without sacrificing as much cross-sectional area as a standard CIPP liner.

The 39" limestone box storm sewer along Forest, also under the UPRR, has had some of the ceiling structures fall in, and the I-beams that remain on the ceiling show signs of rust. This reach of pipe needs to be evaluated for possibly installing a casing pipe and potentially a 36" storm sewer inside the box. This area needs additional follow-up.

The overall recommendations for storm sewer are listed in Table 12 and shown in Exhibits 9-1 through 9-8 in Appendix A:9.

#### 3.1.5. Storm Sewer Laterals

Storm sewer laterals were televised from the storm main or manhole. Storm laterals were mapped onto the storm mainline based on the tap observations from the mainline television. The storm sewer laterals are displayed on Exhibit 3-4 in Appendix A:3. Recommendations for storm laterals include those that are abandoned and should be sealed, laterals that should be replaced, and laterals that need additional follow up. The storm lateral recommendations are listed in Appendix K.

#### 3.1.6. Water Main

Acoustic assessment was performed on seven water mains in the CBD by Echologics. This investigation indicated that three of the mains had lost between 35% and 50% of their wall thickness. The remaining four segments assessed

Figure 8 - Break-in Connection at 12" Sewer





indicated a wall loss between 16% and 26%. These wall losses are average values for the length of the pipe and are very dependent on using the correct assumptions of original pipe diameter and material. Therefore, confirmation of these assumptions is important prior to any rehabilitation recommendations.

The Village added several segments of water main for assessment along Route 53 and along Roosevelt Avenue. These are not part of the CBD project, but the results are included in the Echologics Report titled *Condition Assessment on Small Diameter Metallic Water Mains* and dated January 5, 2018 (Draft) (3).

### 3.1.7. Building Inspection

Performing building inspections in an established downtown area like the Glen Ellyn CBD, where parcels, buildings, and basements do not always coincide, can present many challenges. The inspections performed resulted in the identification of several buildings with illegal connections, including some Village-owned buildings. Inspections also resulted in situations where a particular connection could not be confirmed visually. In these situations, dye tracing will be needed to confirm the discharge location. Internal roof drains and sump pumps with unknown discharge locations will also require this confirmation.

## 3.2. PUBLIC SECTOR RECOMMENDATIONS SUMMARY

Overall, the recommendations for the public sector includes rehabilitation of selected sewers, selected structures, and selected water mains. The rehabilitation may include lining, point repairs, grouting, as well as sealing of abandoned laterals on already lined mains, or removal of cross bores. Complete replacement may also be recommended in some cases. An overview of the mainline and structures with recommendations for all storm, sanitary, and water systems is displayed in Exhibits 10-1 through 10-8 in Appendix A:10. The overview displays how all recommendations may overlap, and the separated details of all specific recommendations for each system can be referenced in the Exhibits in Appendices A:5, A:7, A:8, and A:9.

### 3.2.1. Asset Inventory Recommendations

Due to the significant number of map updates needed for the storm system, we recommend that the Village initiate a program to update the storm system mapping for the entire Village. The Village should also consider initiating a storm system inspection program.

### 3.2.2. Sanitary Manhole Recommendations

Rehabilitation recommendations for manholes inspected as part of the 2009-2010 study are included, based on the inspections performed at that time. More recent inspections were not performed as part of this project. If the manholes inspected in the 2009-2010 study were identified during televising to have been rehabilitated by the Village, no recommendations were made. The manholes identified as having rehabilitation already completed are listed in Appendix F.

Structure recommendations include: replace frame and cover, seal and adjust frame, cementitious manhole sealing, curtain grout bottom 18 inches, full curtain grout, repair bench and trough, partial reconstruction, and structure replacement. The composite recommendations for a given structure can include one or more of these individual recommendations. A few manholes also have special case recommendations, noted in the other recommendations and comments. Some other recommendations include plugging and sealing manhole service connections that are abandoned.

The summary and cost estimate of for the recommended sanitary manhole rehabilitation is displayed in Table 9. Costs presented should be used for planning and budgeting purposes only. A detailed list of rehabilitation recommendations for each sanitary manhole is presented in Appendix F, sorted by manhole number, and are displayed in Exhibit 7-1 in Appendix A:7.

Table 9 - Sanitary Manhole Recommendations - Cost Estimate

| Sanitary Manhole Recommendations    | Unit          | Quantity | Unit Rehab Cost | Total Rehab Cost |
|-------------------------------------|---------------|----------|-----------------|------------------|
| Replace Frame & Cover <sup>1</sup>  | Each          | 1        | \$2,100         | \$2,100          |
| Seal & Adjust Frame <sup>1</sup>    | Each          | 53       | \$1,700         | \$90,100         |
| Cementitious Manhole Sealing        | Vert. Ft      | 278      | \$200           | \$55,600         |
| Curtain Grout Bottom 18"            | Each          | 1        | \$1,000         | \$1,000          |
| Full Curtain Grout                  | Each          | 7        | \$1,900         | \$13,300         |
| Repair Bench & Trough               | Each          | 5        | \$1,000         | \$5,000          |
| Partial Reconstruction              | Each          | 1        | \$5,000         | \$5,000          |
| Structure Replacement (Depth < 10') | Each          | 2        | \$8,000         | \$16,000         |
| Surface Restoration & Testing       | 10 % of Total |          |                 | \$18,800         |
|                                     |               |          | <b>TOTAL:</b>   | <b>\$206,900</b> |

1. Includes external chimney seal.

### 3.2.3. Sanitary Mainline Recommendations

Sanitary mainline rehabilitation recommendations are based on the sewer televising of all the sanitary mains. The rehabilitation recommendations include sewer lining, point repairs, and additional follow-up. Detailed sanitary mainline rehabilitation recommendations are listed in Appendix G, and they are displayed in Exhibit 7-2 in Appendix A:7.

The summary and cost estimate of the recommended sanitary mainline rehabilitation is displayed in Table 10. The lining cost estimate is separated by priority. Costs presented should be used for planning and budgeting purposes only. The sewer lining cost includes pre-cleaning, lining, hydrophilic end seals, reinstatement of laterals, and post-televising. It does not include the cost of grouting every lateral connection.

Table 10 - Sanitary Mainline Recommendations - Cost Estimate

| Sanitary Mainline Recommendations | Unit         | Quantity | Diameter | Unit Cost     | Total Rehab Cost |
|-----------------------------------|--------------|----------|----------|---------------|------------------|
| Line - High Priority              | LF           | 260      | 10"      | \$40          | \$10,400         |
| Line - Medium Priority            | LF           | 830      | 8"-10"   | \$35-\$40     | \$30,300         |
| Line - Low Priority               | LF           | 1,460    | 8"-15"   | \$40-\$70     | \$75,500         |
| Point Repair 5' to 10'            | EA           | 4        | 8"-12"   | \$16,000      | \$64,000         |
| Contingency                       | 10% of Total |          |          |               | \$18,100         |
|                                   |              |          |          | <b>TOTAL:</b> | <b>\$198,300</b> |

### 3.2.4. Storm Structure Recommendations

The detailed list of storm structures recommended for rehabilitation is listed in Appendix H. The recommendations are displayed on Exhibits 8-1 through 8-8 in Appendix A:8. The recommendations include: manhole adjustment, inlet/catch basin adjustment, repair wall, cementitious manhole sealing, repair bench and trough, partial reconstruction, and structure replacement. The composite recommendations for a given structure can include one or more of these individual recommendations. A few manholes also have special case recommendations, noted in the other recommendations and comments. Some other recommendations include evaluating the relocation of cross bores, of which five were identified in storm structures.

The summary and cost estimate for the recommended storm structure rehabilitation is displayed in Table 11. Costs presented should be used for planning and budgeting purposes only.

Table 11 - Storm Structure Recommendations - Cost Estimate

| Storm Structure Recommendations   | Unit          | Quantity | Unit Rehab Cost | Total Rehab Cost |
|-----------------------------------|---------------|----------|-----------------|------------------|
| Manhole Adjustment                | Each          | 41       | \$1,200         | \$49,200         |
| Inlet / Catch Basin Adjustment    | Each          | 28       | \$900           | \$25,200         |
| Repair Wall                       | Each          | 7        | \$800           | \$5,600          |
| Cementitious Manhole Sealing      | Vert. Ft      | 45       | \$200           | \$9,000          |
| Repair Bench & Trough             | Each          | 3        | \$1,000         | \$3,000          |
| Partial Reconstruction            | Each          | 2        | \$5,000         | \$10,000         |
| Inlet Replacement                 | Each          | 6        | \$1,500         | \$9,000          |
| Catch Basin Replacement           | Each          | 5        | \$2,500         | \$12,500         |
| Manhole Replacement (Depth < 10') | Each          | 5        | \$4,000         | \$20,000         |
| Surface Restoration & Testing     | 10 % of Total |          |                 | \$14,400         |
|                                   |               |          | <b>TOTAL:</b>   | <b>\$157,900</b> |

### 3.2.5. Storm Mainline Recommendations

The detailed storm mainline rehabilitation recommendations are listed in Appendix I, and they are displayed in Exhibits 9-1 through 9-8 Appendix A:9. The rehabilitation recommendations include lining, point repairs, pipe replacement, manhole additions, other recommendations, and additional follow-up.

The summary and cost estimate of the recommended storm mainline rehabilitation is displayed in Table 12. The lining cost estimate is separated by priority. Costs presented should be used for planning and budgeting purposes only. The sewer lining cost includes pre-cleaning, lining, reinstatement of laterals, and post-televising.

Table 12 - Storm Mainline Recommendations - Cost Estimate

| Storm Mainline Recommendations | Unit         | Quantity | Diameter      | Unit Cost  | Total Rehab Cost   |
|--------------------------------|--------------|----------|---------------|------------|--------------------|
| Line - High Priority           | LF           | 1,950    | 10"-24"       | \$40-\$110 | \$188,000          |
| Line - Medium Priority         | LF           | 460      | 10"-30"       | \$40-\$160 | \$57,000           |
| Line - Low Priority            | LF           | 320      | 12"-33"       | \$50-\$190 | \$55,200           |
| Line - Fiberglass              | LF           | 150      | 12"           | \$150      | \$22,500           |
| Point Repair 5' to 10'         | EA           | 7        | 8"-15"        | \$16,000   | \$112,000          |
| Point Repair 10'               | EA           | 1        | 48"           | \$20,000   | \$20,000           |
| Replace Pipe                   | LF           | 1,030    | 8"-21"        | \$250      | \$257,500          |
| Line/Replace Pipe              | LF           | 1,030    | 12"-48"       | \$250      | \$257,500          |
| Manhole Addition               | EA           | 3        | 48"           | \$8,000    | \$24,000           |
| Contingency                    | 10% of Total |          |               |            | \$99,400           |
|                                |              |          | <b>TOTAL:</b> |            | <b>\$1,093,100</b> |



### 3.2.6. Water Main Recommendations

The following recommendations for the water mains are a result of the assessment performed by Echologics and the Village history of the age, material, and breaks of the water mains. The recommendations are displayed on Exhibit 5-3 in Appendix A:5.

- Replacement of 12" watermain and services on Crescent between Glenwood and Park (Approx. 1,500 ft).
- Replacement of 8" watermain and services on Main between Hillside and Duane (Approx. 500 ft).
- Replacement of 8" watermain and services on Main between Crescent and Pennsylvania (Approx. 450 ft).
- Replacement of watermain and services on Pennsylvania between Main and Glenwood (Approx. 450 ft). Watermain shall be up-sized from Main to approx. 250 ft west of the Main/Pennsylvania intersection.
- Abandonment of 8" watermain and services on Main between Duane and Crescent (Under the UP-West Line) (Approx. 350 ft).
- Abandonment of 6" watermain on Pennsylvania between Western and Main (Approx. 1,500 ft).
- Replacement of water services on Main between Pennsylvania and Anthony, including fire service lines for future use.
- Replacement of water services on Pennsylvania between Western and Forest, including fire service lines for future use.
- Lining of 12" watermain on Western (extended) between Duane and Pennsylvania (Under the UP-West Line) (Approx. 450 ft).
- Other recommendations include the addition/replacement of valves and fire hydrants and the replacement/abandonment of water services to selected water fountains at specific locations through the downtown.

Additional assessment recommendations include re-running the water assessment analysis on the Park Ave watermain due to the addition of updated sizing.

Options for further assessment, that would allow the Village to confirm the remaining thickness at specific locations include cutting coupons to measure thickness directly or using Broadband Electro-Magnetic (BEM) testing. Other options would be to perform internal leak detections with acoustic and visual inspection using a tool such as the MTA.

### 3.2.7. Public Sector Recommendations Summary

The summary and cost estimate for the recommended public sector rehabilitation is displayed in Table 13. Costs presented should be used for planning and budgeting purposes only.

Table 13 - Public Sector Recommendations Summary - Cost Estimate

| System Rehabilitation Type | Total Rehab Cost   |
|----------------------------|--------------------|
| Sanitary Manholes          | \$206,900          |
| Sanitary Mainline          | \$198,300          |
| Storm Structures           | \$157,900          |
| Storm Mainline             | \$1,093,100        |
| Water Main                 | \$1,260,000        |
| <b>TOTAL:</b>              | <b>\$2,916,200</b> |

### 3.3. PRIVATE SECTOR RECOMMENDATIONS

Private sector recommendations include addressing both storm and sanitary laterals that may need rehabilitation, including confirmation of status – active or not. In addition, confirmation and removal of illegal sump pump and downspout connections are included in these recommendations.

#### 3.3.1. Sanitary Lateral Recommendations

It is recommended that abandoned laterals are sealed. If the sanitary sewer is receiving lining, the abandoned lateral should not be reinstated. If the sanitary sewer has already been lined, it is recommended that the abandoned laterals' connections to the mainline be removed and an external clamp be installed over the lined pipe. Laterals that are active or are recommended for T-lining (which require the sanitary mainline be lined first), and, if T-lining is infeasible due to the conditions, the lateral is recommended for remove and replacement. The summary and cost estimate of the sanitary lateral recommendations are presented in Table 14. Costs presented should be used for planning and budgeting purposes only.

Table 14 - Sanitary Lateral Recommendations - Cost Estimate

| Sanitary Lateral Recommendation | Quantity | Unit Cost | Total Rehab Cost   |
|---------------------------------|----------|-----------|--------------------|
| Remove and Replace              | 21       | \$12,000  | \$252,000          |
| T-Line                          | 89       | \$10,000  | \$890,000          |
| Seal/Cap                        | 72       | \$3,000   | \$216,000          |
| <b>TOTAL:</b>                   |          |           | <b>\$1,358,000</b> |

The sanitary lateral recommendations are detailed in Appendix J. Actual block by block recommendations need to be developed so that, for example, a lateral is not recommended for lining if the main is not lined. Some laterals may require additional follow-up, as it is important to verify that laterals that appear inactive or abandoned are in fact not active and can be removed. Follow-up can consist of re-television if the lateral video quality was not sufficient or internal property dye tracing of the lateral connections. Approximately 18 sanitary laterals are recommended for follow-up.

#### 3.3.2. Storm Lateral Recommendations

The storm lateral recommendations are detailed in Appendix K. The summary and cost estimate of the lateral recommendations are presented in Table 15. The recommendations consist of removing and replacing the lateral or sealing the abandoned lateral connection. Costs presented should be used for planning and budgeting purposes only. Approximately 29 storm laterals are recommended for follow-up, to verify if it is abandoned or active, similar to what is recommended for the sanitary laterals discussed in Section 3.3.1.

Table 15 - Storm Lateral Recommendations - Cost Estimate

| Storm Lateral Recommendation | Quantity | Unit Cost | Total Rehab Cost |
|------------------------------|----------|-----------|------------------|
| Remove and Replace           | 33       | \$12,000  | \$396,000        |
| Seal/Cap                     | 24       | \$3,000   | \$72,000         |
| <b>TOTAL:</b>                |          |           | <b>\$468,000</b> |

### 3.3.3. Building Inspections Recommendations

The follow-up recommendations in regard to building inspections are as follows:

- It is recommended that the Village continue the inspection program attempting to complete the 34 remaining inspections.
- It is recommended that all easily accessible external suspect defects be dye tested.
- It is recommended that all internal suspect sumps be dye tested.
- It is recommended that the feasibility of dye testing internal roof drains be investigated.
- Upon completion of the inspection program, it is recommended that the Village proceed with enforcement on disconnection of any improper sump and downspout connections.

The remaining building inspections will require additional public works effort and potentially coordination with Village entities in addition to public works.

### 3.4. NEXT PHASE

The work completed to date provides the baseline for understanding the scope of work to be completed on the underground infrastructure in the Glen Ellyn CBD. However, there is some work that has not been completed. The major items that need to be completed include:

- Remaining televising – some laterals and storm main
- Remaining building inspections
- Dye testing of private sector suspect connections

Completion of remaining televising, building inspections, and dye testing is being discussed with the Village to determine what will be completed.

The watermain lining, point repairs, structure frame adjustments, and replacements (structure, main, lateral) should be done prior to the topside work of the streetscape. Lining and grouting of sewer mains, structures, and laterals can be done after the topside work of the streetscape is completed if necessary.

There are areas listed below that will need additional more detailed design and discussion with the Village prior to finalizing the recommendations.

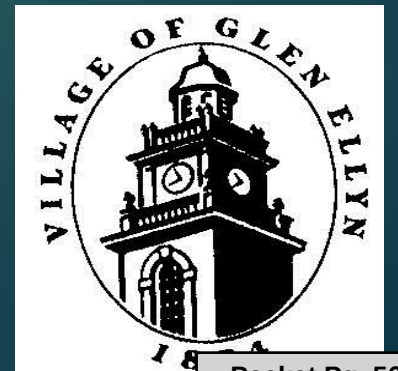
- Glenwood Avenue sanitary sewer between Pennsylvania and Crescent
- Main Street sanitary sewer between Pennsylvania and Crescent
- Storm sewer under the UPRR tracks along Forest Ave
- Storm sewer under the UPRR tracks along Main Street
- Storm sewer along Pennsylvania Avenue between Glenwood Avenue and Forest Avenue
- Removal of cross bores



# CBD Streetscape and Utility Improvement Design Update

VILLAGE OF GLEN ELLYN

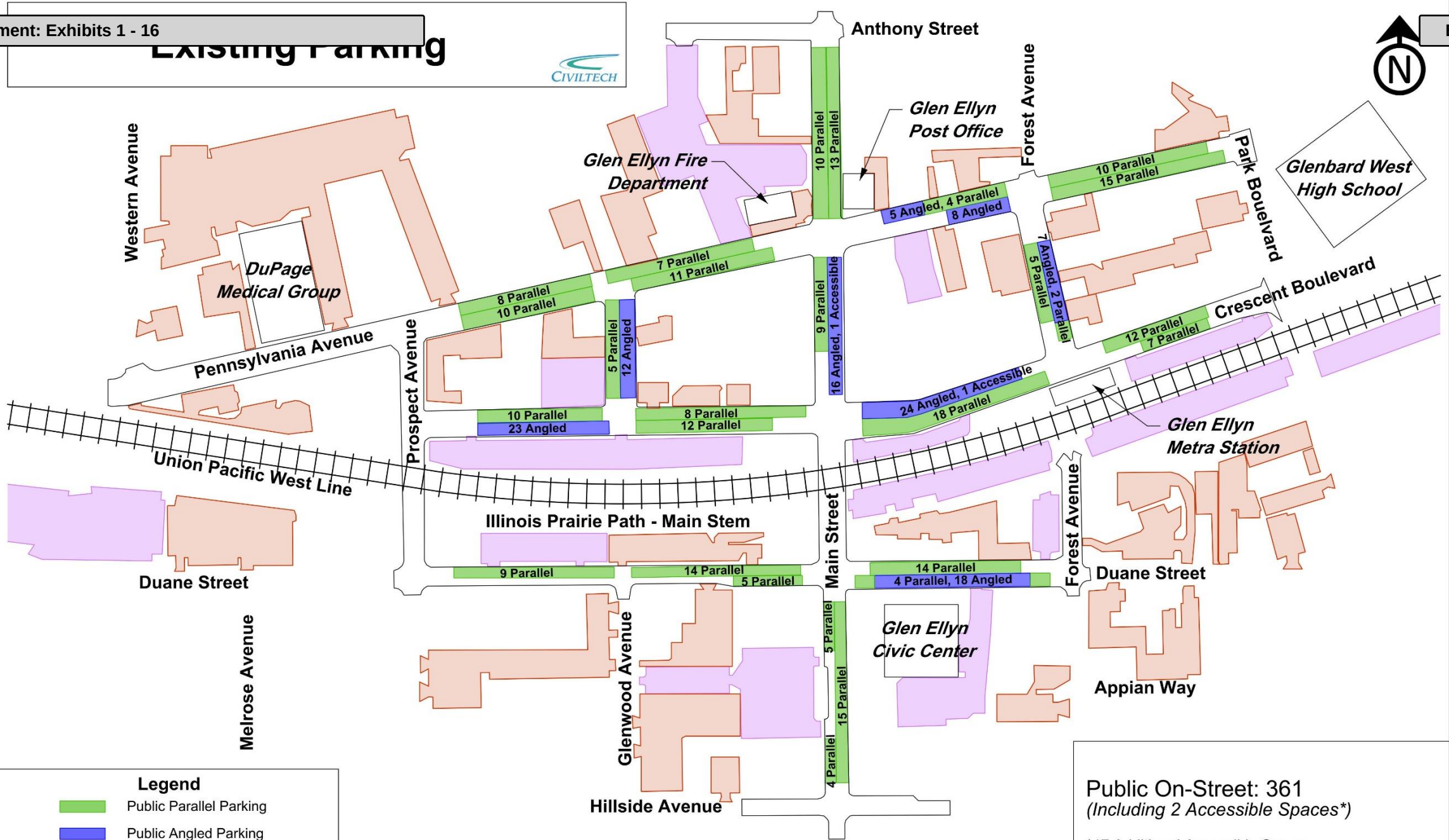
CAPITAL IMPROVEMENTS COMMISSION - FEBRUARY 12, 2019



# Background and Schedule

- ▶ October 2018: First Phase of design work began
- ▶ April/May 2019: Completion of first phase of design work (Preliminary Engineering)
- ▶ May/June 2019: Beginning of second phase of design work (Final Engineering)
- ▶ Early 2020: Completion of second phase of design work (Final Engineering)
- ▶ Spring of 2020: Beginning of phased construction work

# Existing Parking



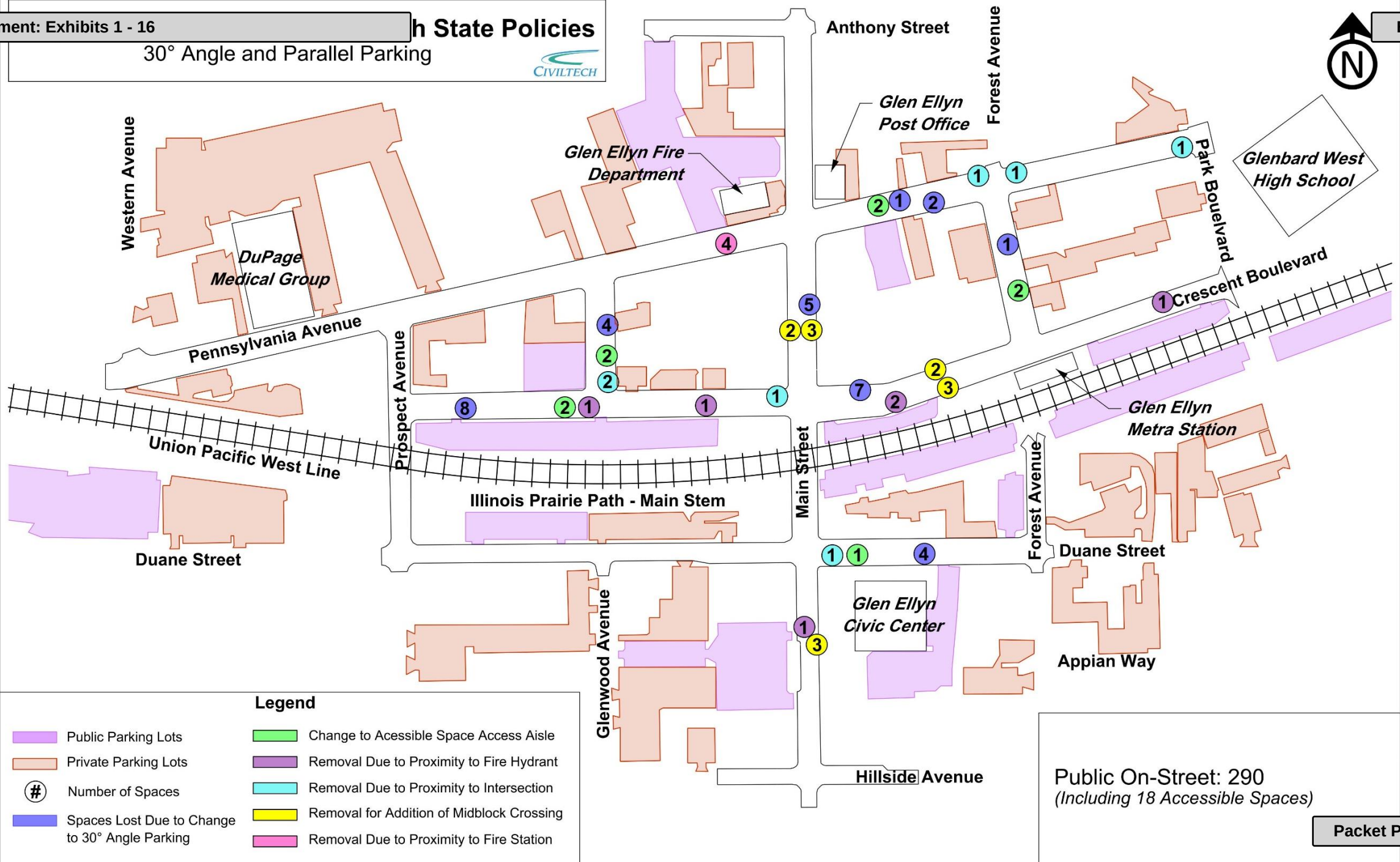
## Legend

- Public Parallel Parking
- Public Angled Parking
- Public Parking Lots
- Private Parking Lots

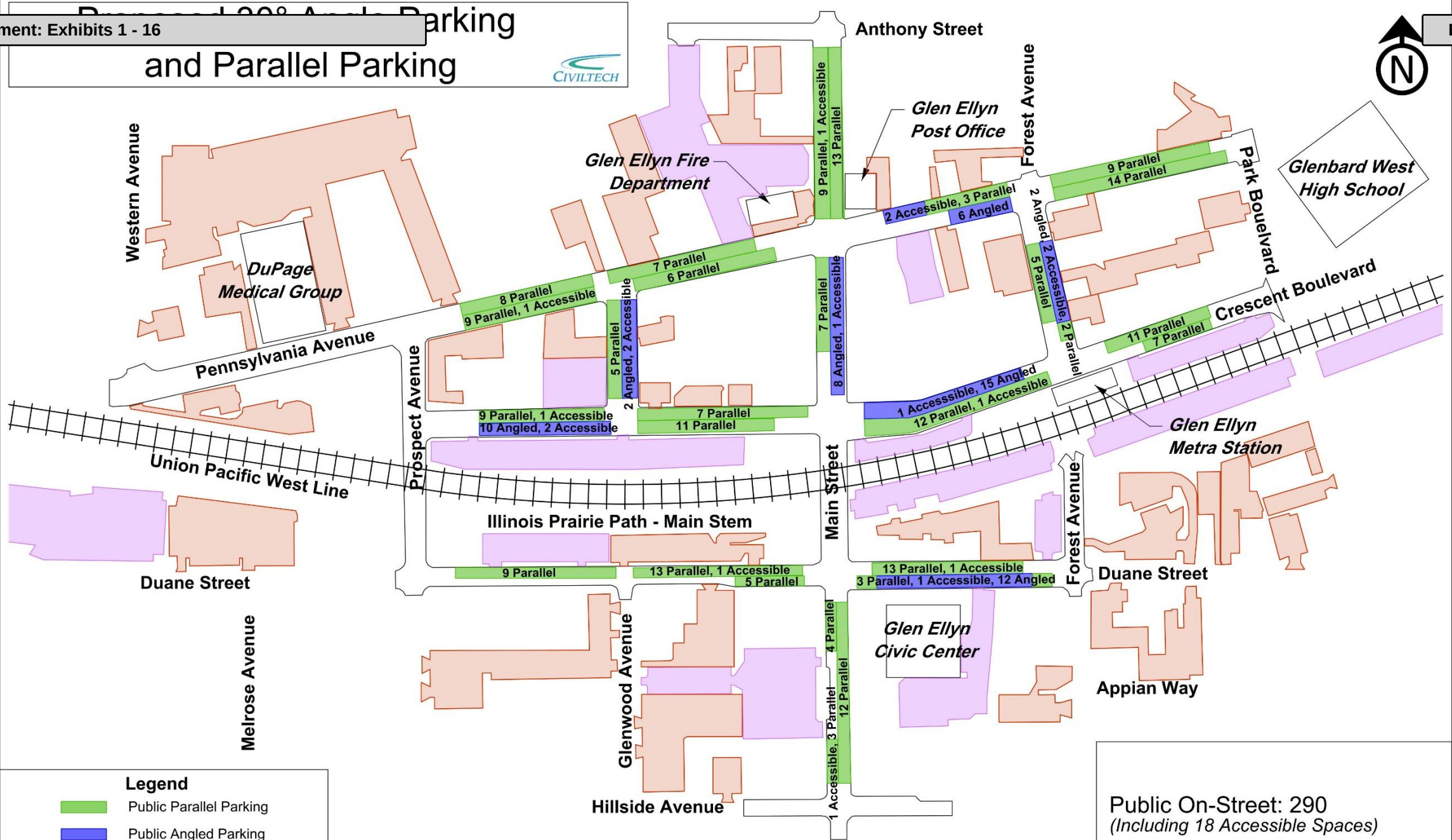
Public On-Street: 361  
(Including 2 Accessible Spaces\*)

\*17 Additional Accessible Spaces  
Needed to Comply with Federal Policy



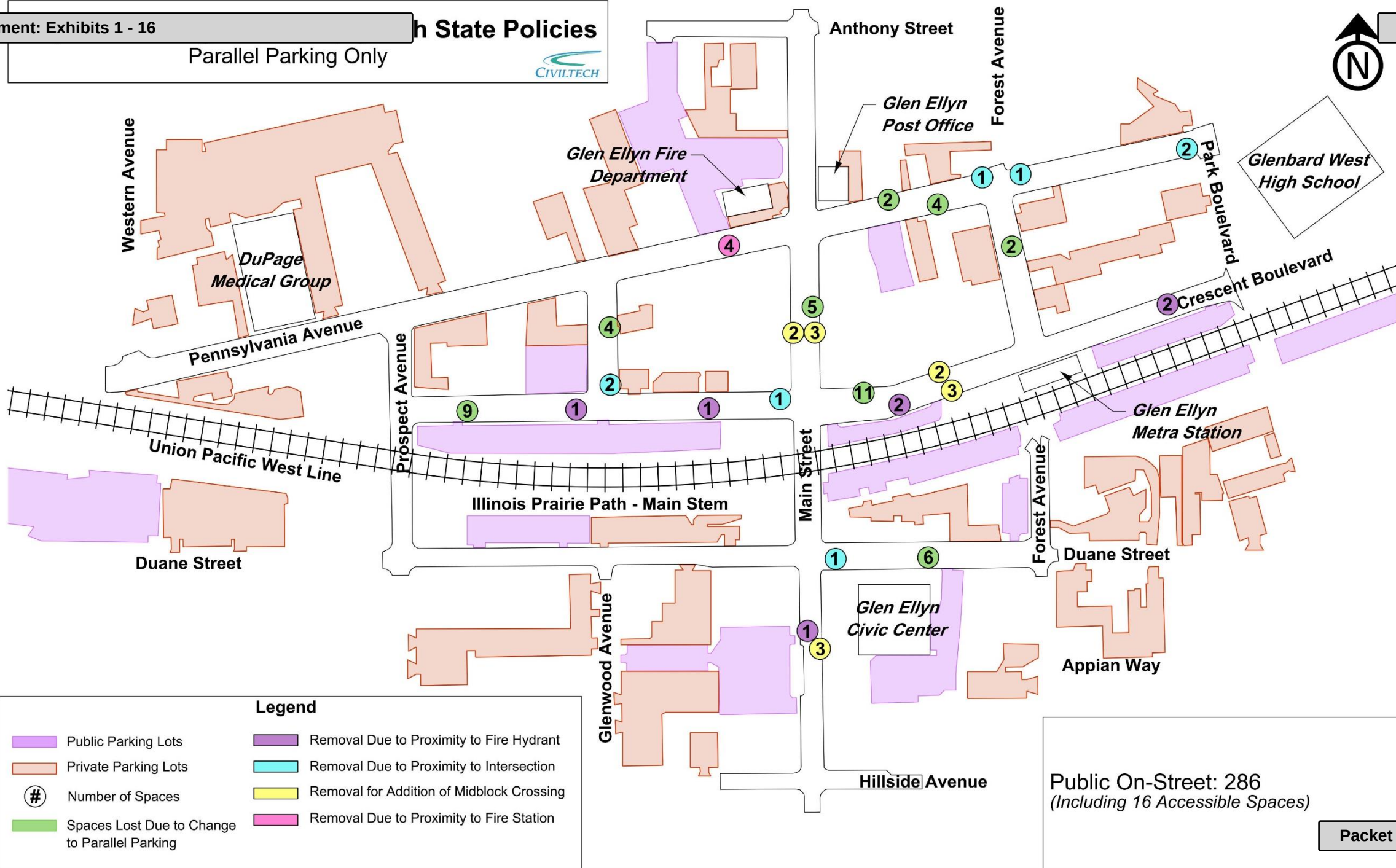


# DuPage County Public On-Street Parking and Parallel Parking



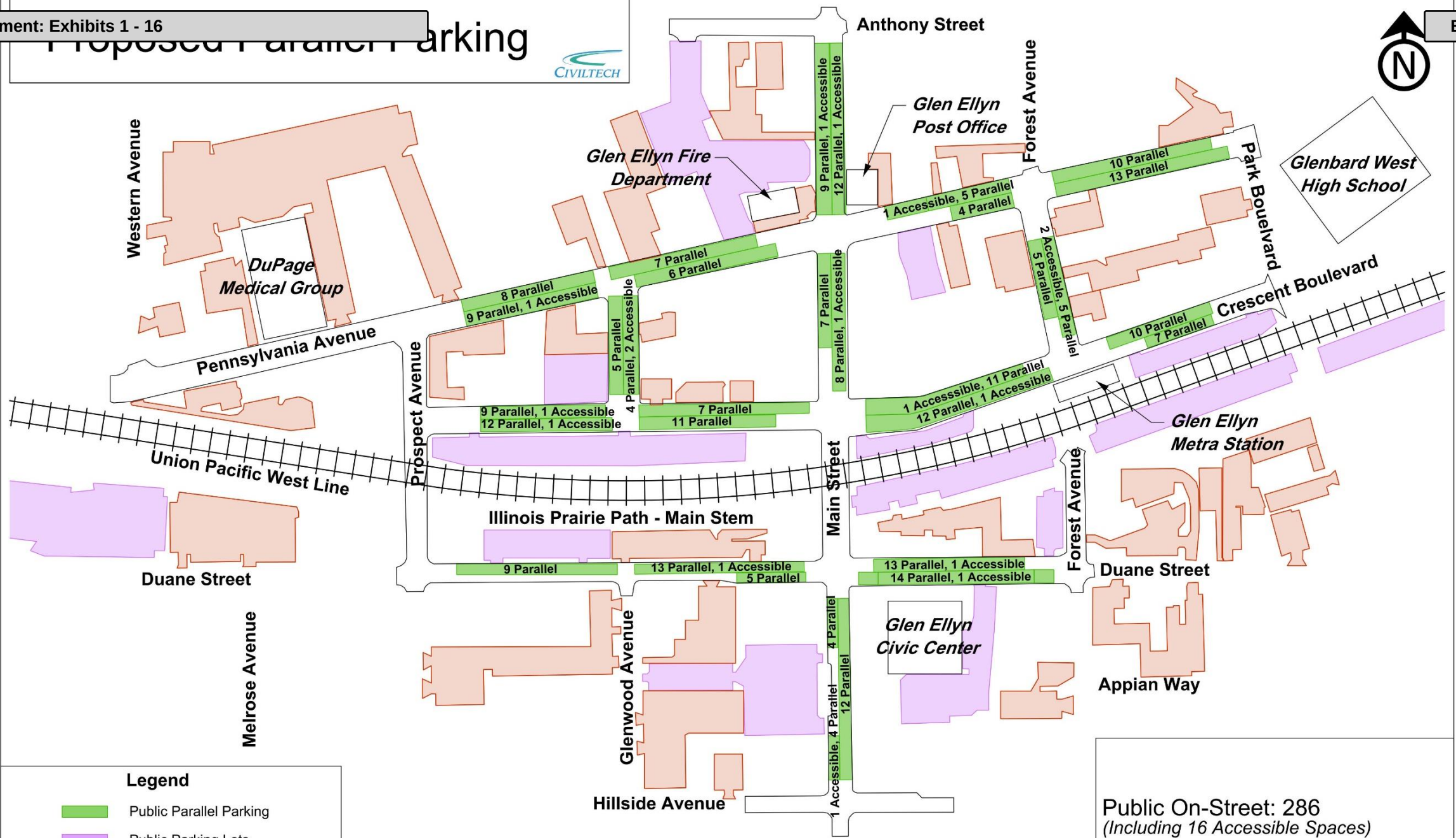


Parallel Parking Only





# Proposed Parallel Parking

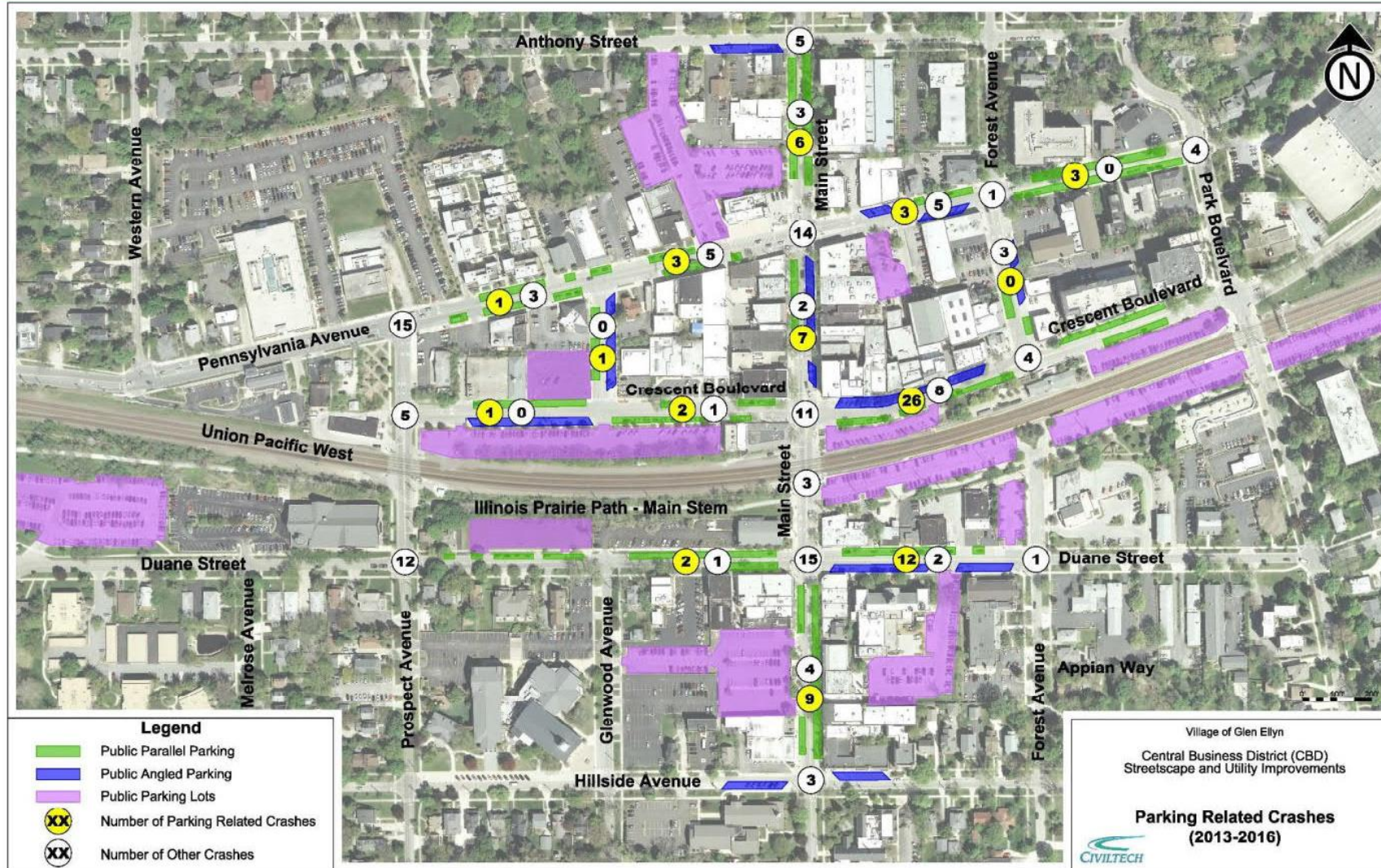


# On-Street Parking Assessments

| Parking Space                                 | North Side | South Side | Total     |
|-----------------------------------------------|------------|------------|-----------|
| <b>Existing Parking Configuration</b>         |            |            |           |
| Change to ADA parking loading zones           | 9          | 2          | 11        |
| Removal to comply with state policy           | 25         | 2          | 30        |
| Total                                         | 34         | 4          | <b>41</b> |
|                                               |            |            |           |
| <b>Change to 30 Degree Angle Parking</b>      |            |            |           |
| Change to ADA parking loading zones           | 8          | 1          | 9         |
| Removal to comply with state policy           | 25         | 5          | 30        |
| Loss due to change to 30 degree angle parking | 28         | 4          | 32        |
| Total                                         | 61         | 10         | <b>71</b> |
|                                               |            |            |           |
| <b>Change to Parallel Parking</b>             |            |            |           |
| Change to comply with state policy            | 27         | 5          | 32        |
| Loss due to change to parallel parking        | 37         | 6          | 43        |
| Total                                         | 64         | 11         | <b>75</b> |

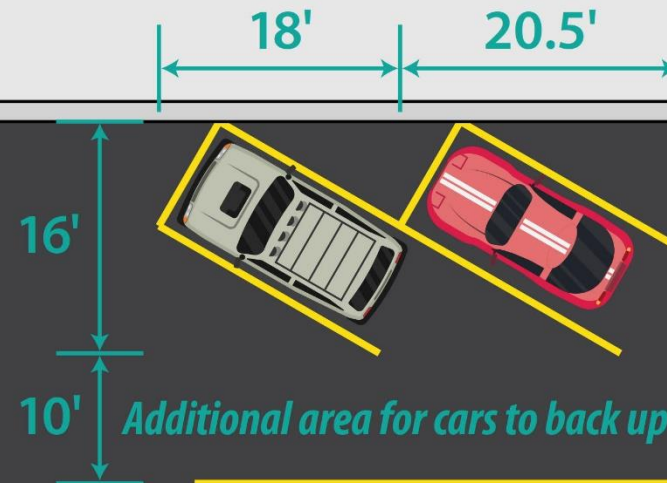
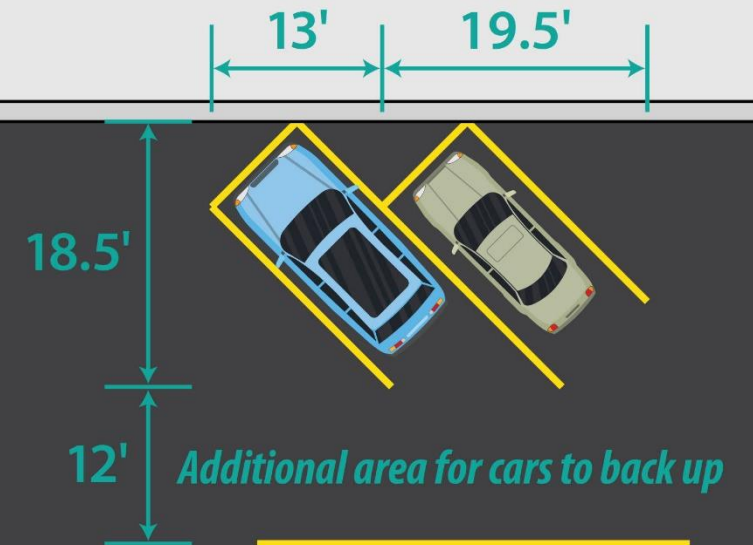


# Crash Analysis

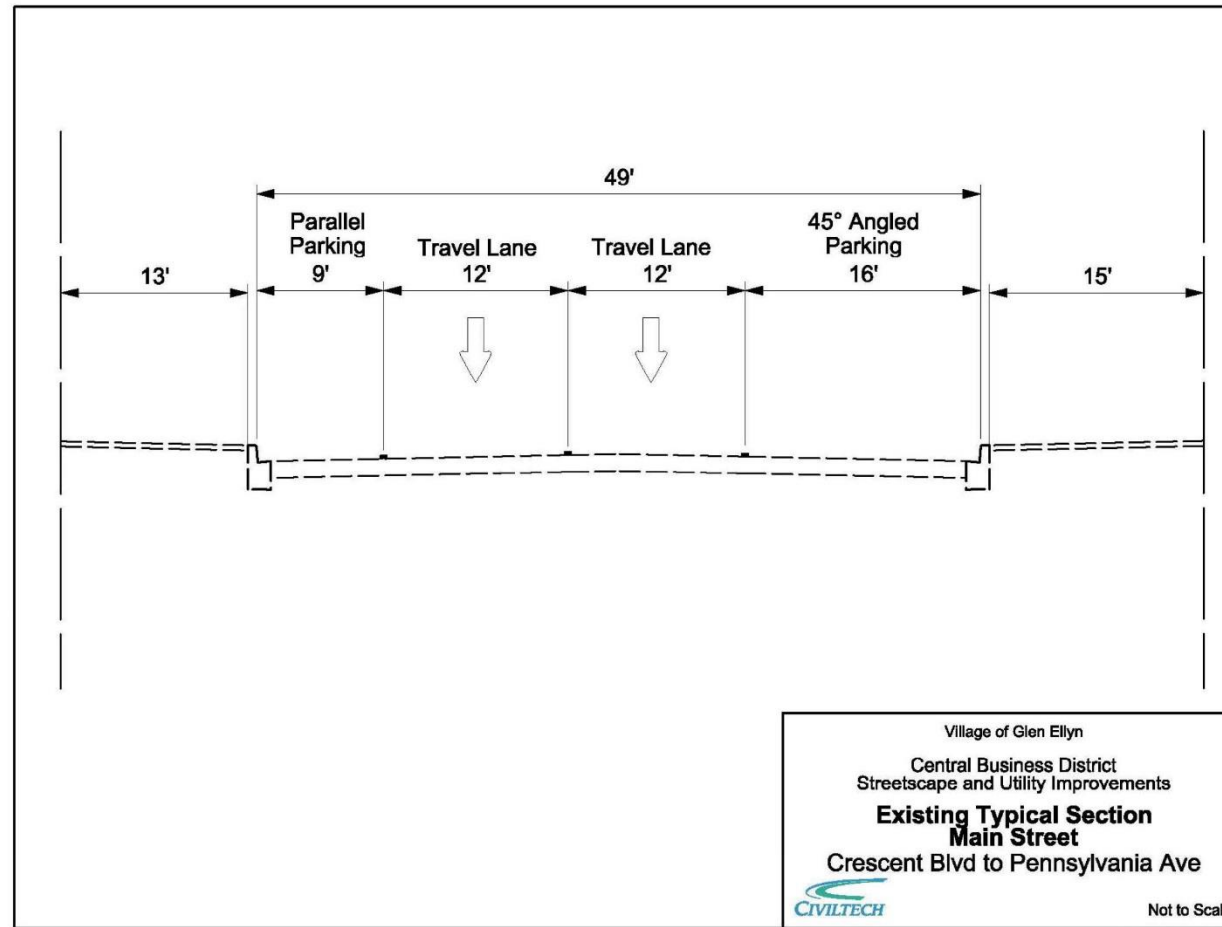




# Parking Space Options

**Parallel****30° Angle****45° Angle**

# Typical Section

**Exhibit 2a**

# Typical Section

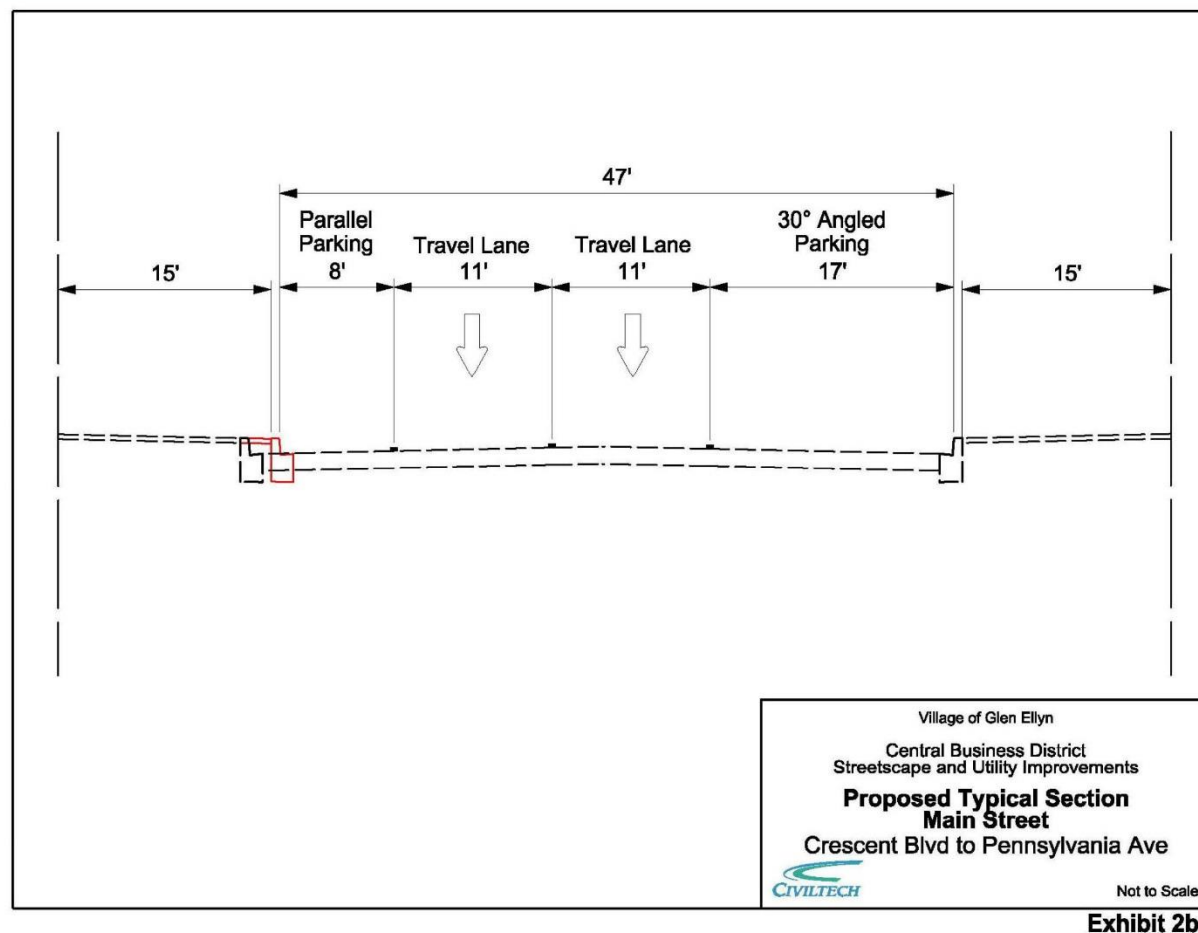


Exhibit 2b



# Typical Section

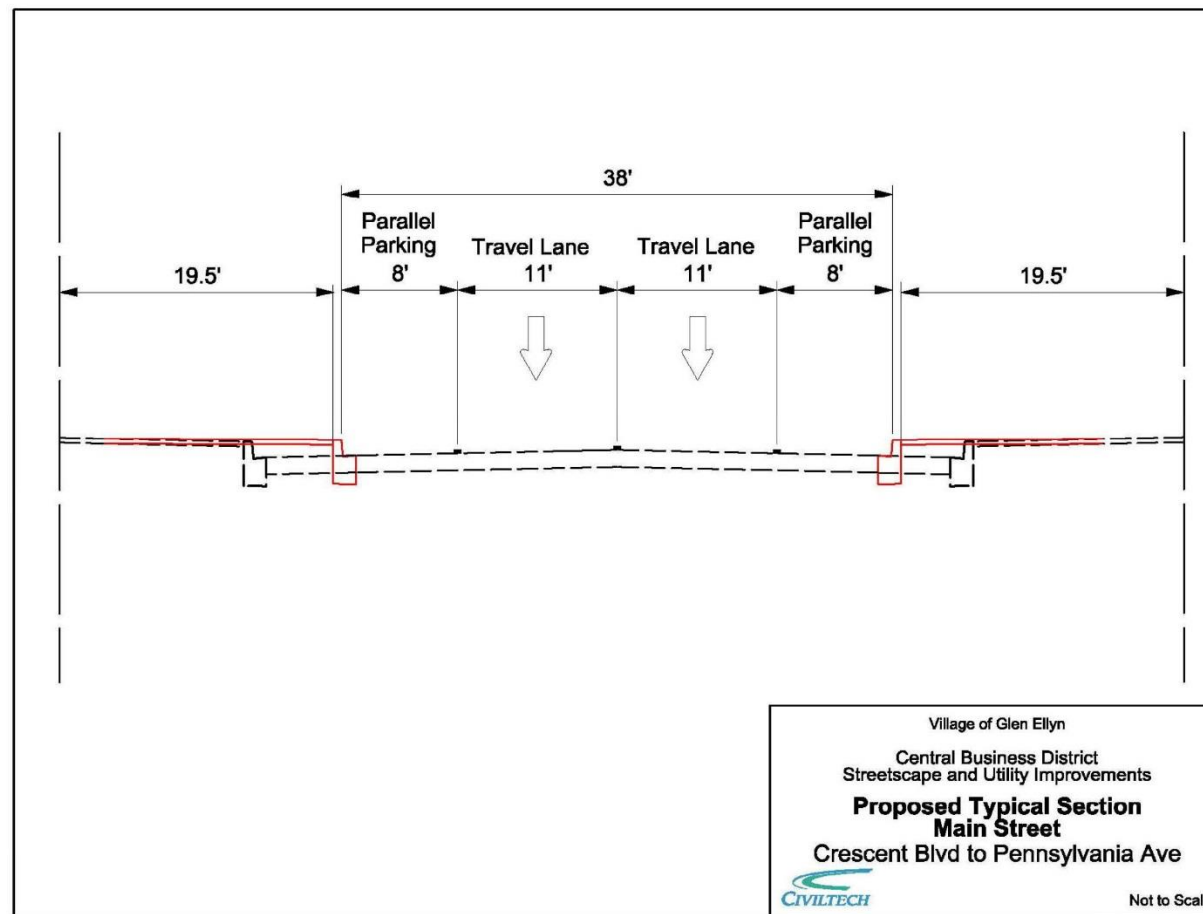


Exhibit 2c

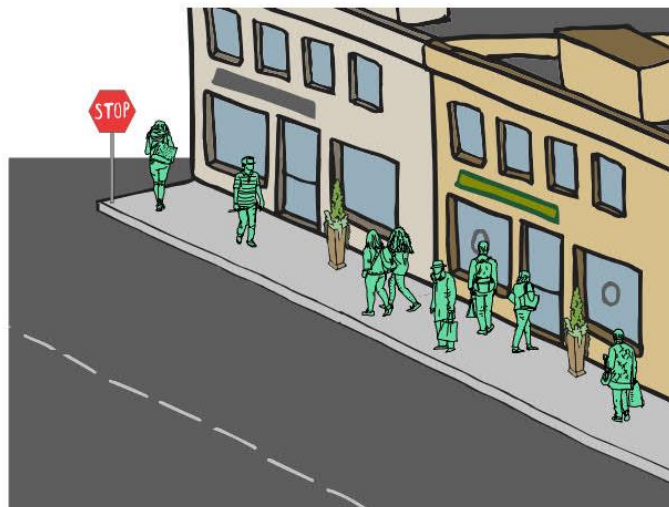


# SIDEWALK WIDTH SCENARIOS

DESIGN  
DOWNTOWN  
GLEN ELLYN  
WORKSHOP

E.1.a

MINIMUM: 8-10'



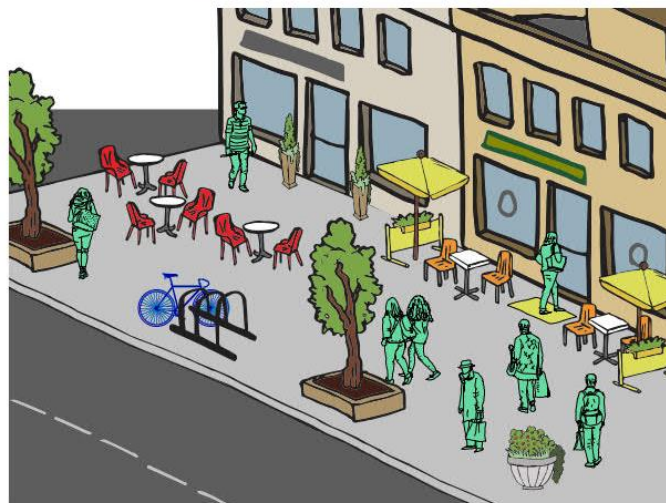
STREET TREES & FURNITURE: 14-15'



TREES, FURNITURE & CAFES: 19'



PLAZA-LIKE: MAXIMUM FLEXIBILITY: ~30'



SIDEWALKS WITH PARALLEL PARKING:

SIDEWALKS WITH ANGLED PARKING:



## NAVIGATING SIDEWALK ZONES:



Sidewalks are invaluable to urban life. As public spaces, sidewalks serve as the front steps to the city, activating streets socially and economically. Wide, accessible sidewalks are fundamental and have been proven to enhance public health, draw pedestrians and shoppers, and even boost happiness!

Adopted from the National Association of City Transportation Officials' Urban Street Design Guide

**1 - FRONTAGE ZONE**

The frontage zone describes the section of the sidewalk that functions as an extension of the building, whether through entryways and doors or sidewalk cafes and sandwich boards. The frontage zone consists of both the structure and the facade of the building fronting the street, as well as the space immediately adjacent to the building.

**2 - PEDESTRIAN THROUGH ZONE**

The pedestrian through zone is the primary, accessible pathway that runs parallel to the street. The through zone ensures that pedestrians have a safe and adequate place to walk and should be 5-7 feet wide in residential settings and 8-12 feet wide in downtown or commercial areas.

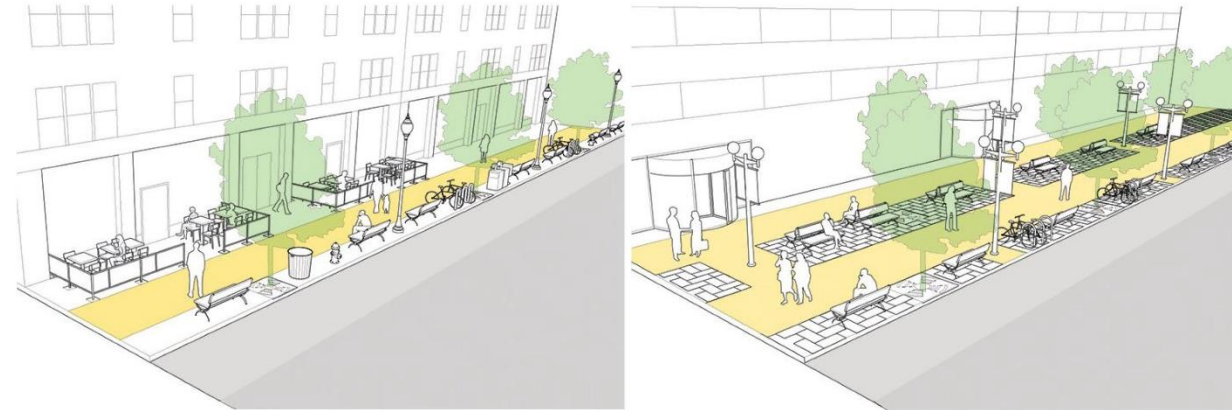
**3 - STREET FURNITURE & CURB ZONE**

The street furniture zone is defined as the section of the sidewalk between the curb and the through zone in which street furniture and amenities, such as lighting, benches, newspaper kiosks, utility poles, tree pits, and bicycle parking are provided. The street furniture zone may also consist of green infrastructure elements, such as rain gardens or flow-through planters.

**4 - ENHANCEMENT/BUFFER ZONE**

The enhancement/buffer zone is the space immediately next to the sidewalk that may consist of a variety of different elements. These include curb extensions, parklets, stormwater management features, bike racks, or even curbside bike lanes.

## WIDE SIDEWALKS = A WIN-WIN:



Maximizing sidewalk space requires thoughtful considerations for its many uses and needs. But there's only so much one can do with little space.

Expanding sidewalk space makes this key amenity more user-friendly, draws people and shoppers, and reclaims crucial space for various amenities.





# Recommended Budget and Preliminary Estimate

| Recommended Budget<br>Based on a Rough Order of Magnitude Cost Estimate                                                                         |                | Preliminary<br>Estimate |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------|
| Item                                                                                                                                            | Cost           | Cost                    |
| Roadway and Sidewalk Work                                                                                                                       | \$7.7M         | \$6.9M                  |
| Upgrade Sidewalk and Crosswalk Areas to Pavers                                                                                                  | \$1.5M         | \$1.8M                  |
| Street Lighting Repairs and Installations – Conduit/Wiring Replacement, Urban Ceiling Lighting (not included), Temporary Lighting               | \$600K         | \$1.3M                  |
| Lighted Pedestrian Bollards                                                                                                                     | \$0            | \$0                     |
| Site Furnishings – Seat Walls, Benches, Bike Racks, Art (not included), Trash Receptacles, Etc.                                                 | \$300K         | Pending                 |
| Landscaping – Trees, Shrubs, Perennials, Etc.                                                                                                   | \$300K         | \$555K                  |
| Phase II Engineering (est. as 9% of Construction Cost)                                                                                          |                | \$990K                  |
| Phase III Engineering (est. as 11% of Construction Cost)                                                                                        |                | \$1.2M                  |
| <b>Totals</b>                                                                                                                                   | <b>\$10.4M</b> | <b>\$12.9M</b>          |
| Additional potential Items Not Included (Seat Walls, Fire Place, Festoon Light Area, Speaker Wiring, Custom Pods, decorative bollards) ~ \$430K |                |                         |

# Sidewalk & Crosswalk Materials

| Material Choice                     | Cost per square foot                      | Sidewalk<br>Furniture Zone<br>Total Cost | Sidewalk<br>Pedestrian<br>Through Zone<br>Total Cost | Crosswalks<br>Total Cost |
|-------------------------------------|-------------------------------------------|------------------------------------------|------------------------------------------------------|--------------------------|
| Plain Broom<br>Finished Concrete    | \$6.00                                    | \$300,000                                | \$1,000,000                                          |                          |
| Clay Fire Brick on<br>concrete base | \$30.00                                   | \$1,500,000                              |                                                      |                          |
| Stamped Colored<br>Concrete         | \$18 for sidewalks<br>\$30 for crosswalks | \$900,000                                |                                                      | \$300,000                |

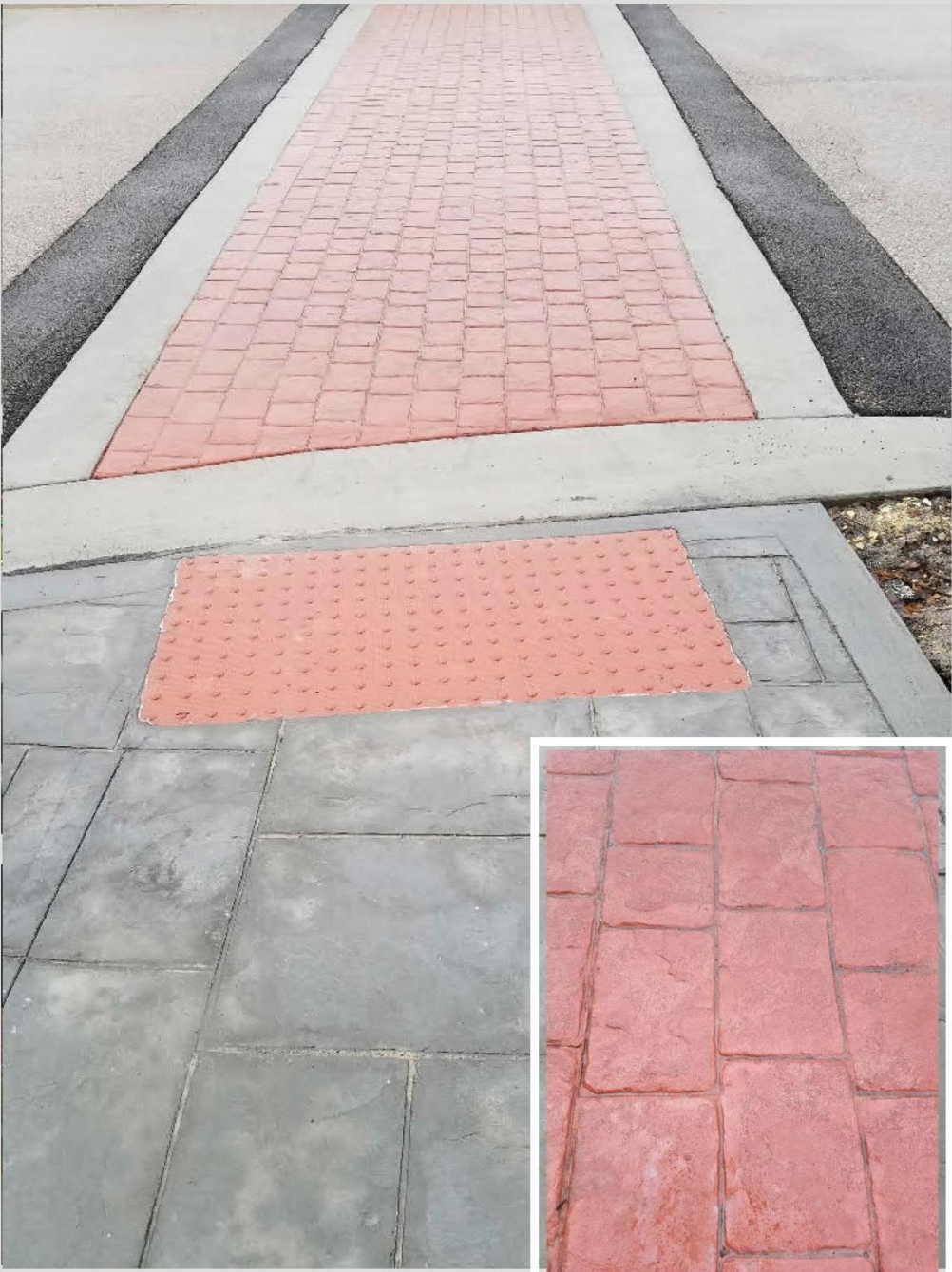


| Material Choice                  | Pros                                                                                                                                               | Cons                                                                                                           |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Plain Broom<br>Finished Concrete | Lowest cost option<br>Easiest to install correctly<br>Standard snowplow<br>equipment<br>Unobtrusive aesthetic<br>Allows other elements to<br>shine | Limited options for design<br>Uninspiring appearance<br>Some cracking possible<br>Concrete can spall and flake |





| Material Choice                  | Pros                                                                                                 | Cons                                                                                                                  |
|----------------------------------|------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Clay Fire Brick on concrete base | Historic/timeless appearance<br>Durable material<br>Decorative aesthetic<br>Material will never fade | High construction cost<br>Requires high skilled contractors<br>Special snowplowing equipment<br>Limited color options |



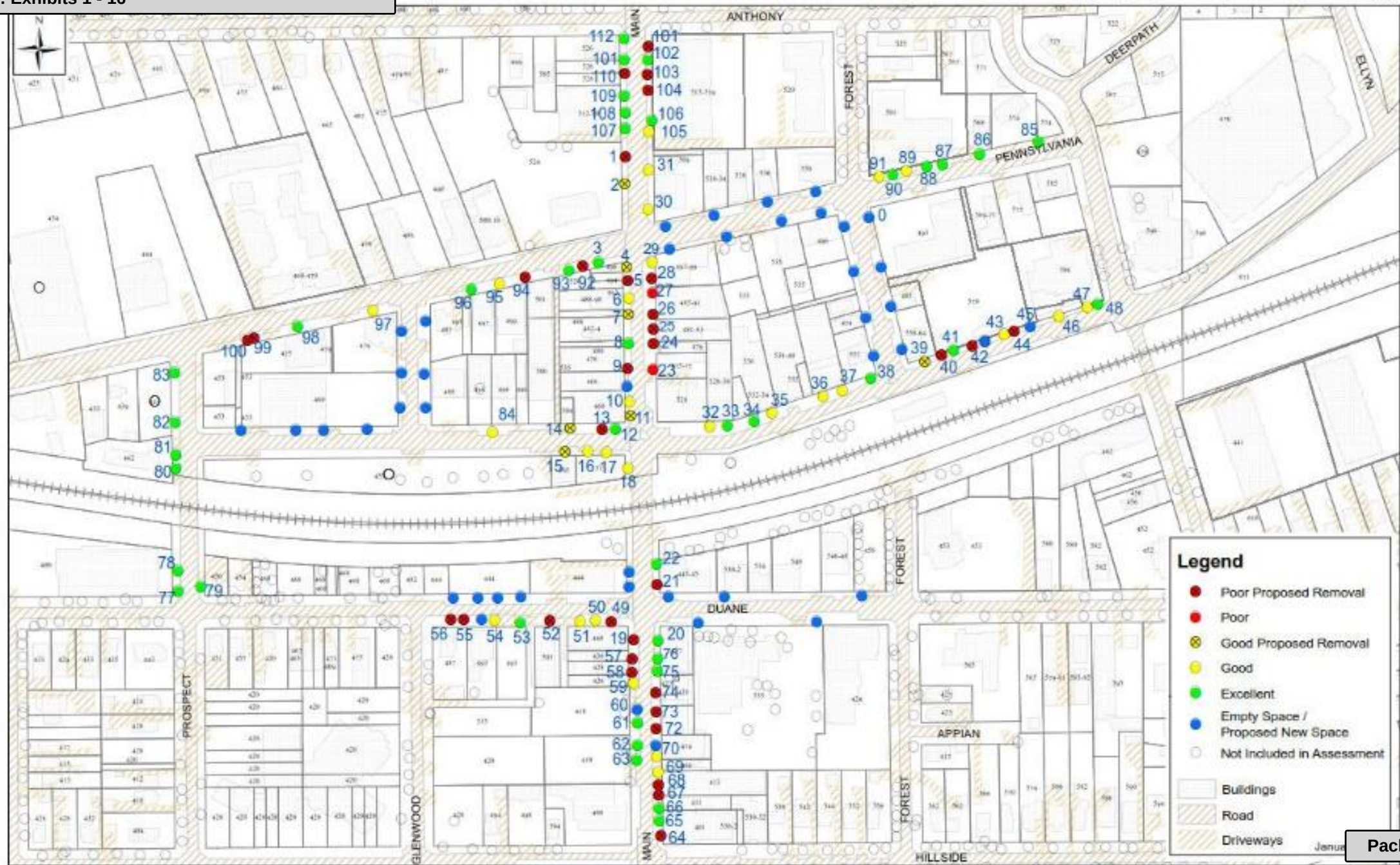
| Material Choice          | Pros                                                                                                                                                          | Cons                                                                                                                                       |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Stamped Colored Concrete | <p>Lower cost than brick</p> <p>Decorative aesthetic</p> <p>Unique and custom patterns</p> <p>Wide range of colors/finishes</p> <p>Creative opportunities</p> | <p>Requires high skilled contractor</p> <p>Special snowplowing equipment</p> <p>Color may fade over time</p> <p>Some cracking possible</p> |



## CENTRAL BUSINESS DISTRICT - TREE ASSESSMENT

0 75 150 300 450 600 Feet

E.1.a





# Tree Related Items

## SILVA CELLS & THEIR BENEFITS



### AVOID UNHEALTHY TREES:

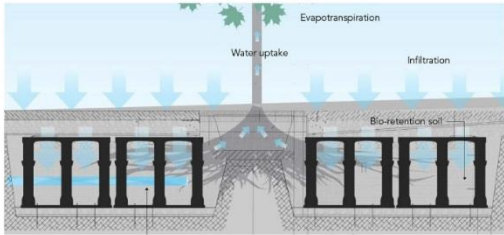
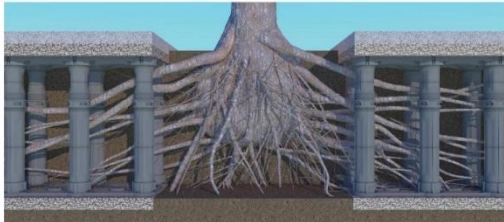


The Silva Cell is a suspended pavement system for containing unlimited amounts of healthy soil beneath paving while supporting traffic loads and accommodating surrounding utilities. The Silva Cell is filled with high-quality, uncompacted soil to grow trees and manage the rate, quality and volume of stormwater.

### PLANT TREES IN SILVA CELLS:



### HOW IT WORKS:



| ITEM                 | UNIT  | TOTAL | UNIT PRICE      | TOTAL COST |
|----------------------|-------|-------|-----------------|------------|
| NEW TREES            | EACH  | 90    | \$800.00        | \$72,000   |
| SILVA CELLS          | EACH  | 30    | \$5,500.00      | \$165,000  |
| RAISED TREE PLANTERS | EACH  | 55    | \$2,750.00      | \$151,250  |
| PLANTINGS            | EACH  | 75    | \$400.00        | \$30,000   |
| IRRIGATION SYSTEM    | SQ FT | 7300  | \$6.00          | \$43,800   |
|                      |       |       | 20% Contingency | \$92,410   |
|                      |       |       | Total           | \$554,460  |



# Public Input Summary

## DESIGN WORKSHOP REPORT

Village of Glen Ellyn | CBD Streetscape & Utility Improvements



### PRIORITY STATION RESULTS:

Using their dollars - issued from "Glen Ellyn State Bank" - attendees' most common vote was to prioritize green space investments in Downtown via planters and street trees. "Stormwater and sustainability features" was the second-most popular choice for participants.



### "I PREFER" RESULTS:

E.1.a



This station asked participants to place their vote along two opposed axis on seven broad questions designed to gauge their standing on topics pertaining to larger issues the project touches on.

- Strongly favor reliable parking: **35%**
- Strongly favor easy to walk: **53%**
- Somewhat prefer quality: **36%**
- Somewhat or strongly prefer easier to walk: **33.5% each**
- Strongly prefer downtown for people: **57%**
- Strongly prefer outdoor event space: **48%**
- Somewhat prefer easy to bike: **36%**

### I PREFER

|                     |     |       |       |       |                        |
|---------------------|-----|-------|-------|-------|------------------------|
| FREE PARKING        | 24% | 20.5% | 20.5% | 35%   | RELIABLE PARKING       |
| EASY TO WALK        | 53% | 40%   | 0%    | 7%    | EASY TO DRIVE          |
| QUALITY             | 21% | 36%   | 32%   | 11%   | FUNCTION               |
| EASY TO PARK        | 20% | 13%   | 33.5% | 33.5% | EASY TO WALK           |
| DOWNTOWN FOR CARS   | 0%  | 12%   | 31%   | 57%   | DOWNTOWN FOR PEOPLE    |
| OUTDOOR EVENT SPACE | 48% | 30%   | 11%   | 11%   | PARKING WITHIN 1 BLOCK |
| EASY TO DRIVE       | 21% | 26%   | 36%   | 17%   | EASY TO BIKE           |

# Recommendation/Action Requested

Staff respectfully requests a discussion of, and direction on

- On-street parking assessment and potential changes
- Budget and cost estimate
- Material choices for sidewalks and crosswalks



# End of Presentation/Questions?



# MEMORANDUM

**TO:** Village Board

**FROM:** Mark Franz, Village Manager

**DATE:** March 1, 2019

**RE:** March 4, 2019 Village Board Workshop Continued Discussion on Streetscape Project  
Supplemental Materials Depicting Parking Configuration Options

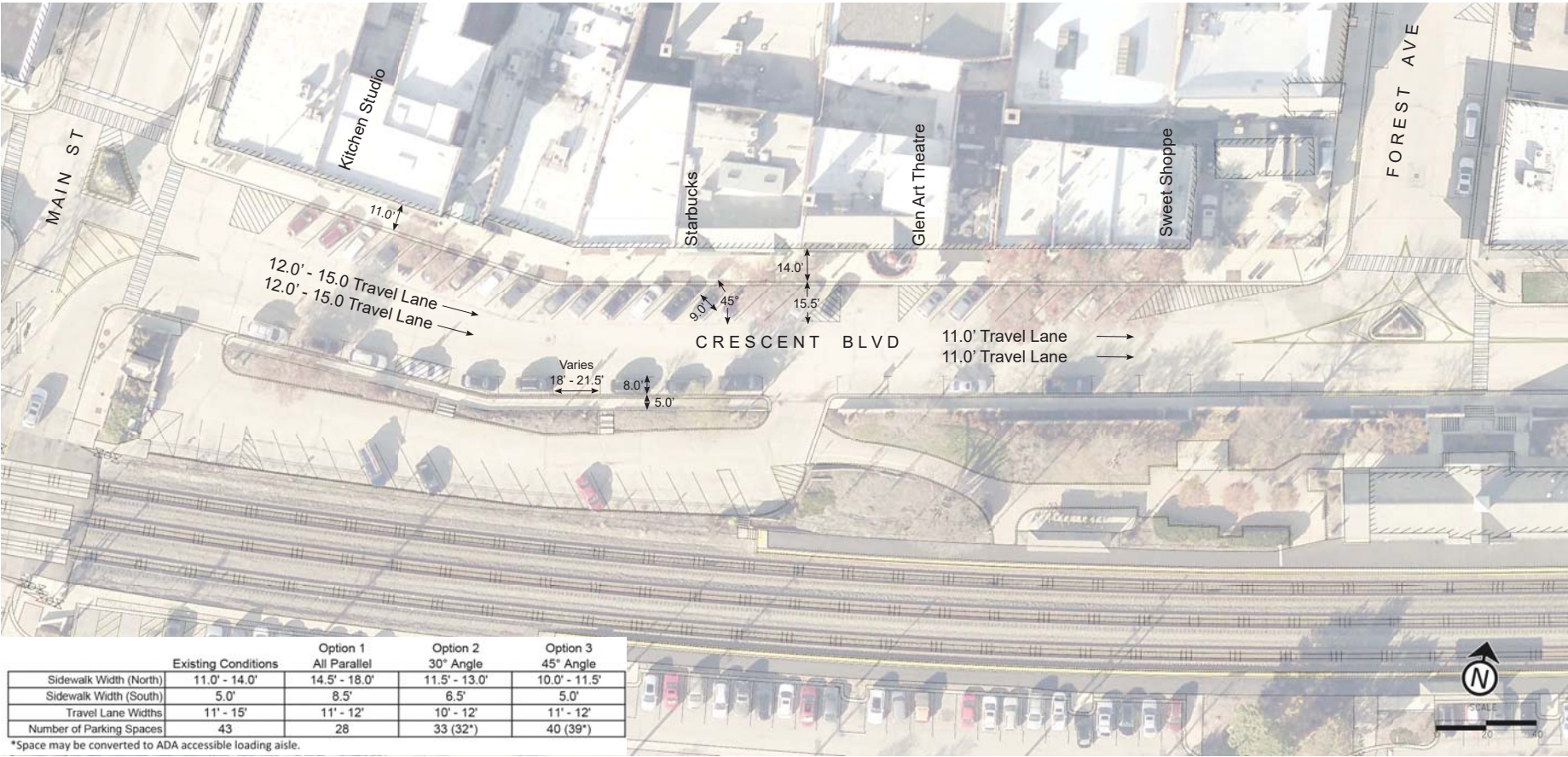
## Subject

The Village Board will continue its review and discussion of the on-street parking, project cost, and choices of paving materials for the CBD Streetscape Project at the Special Workshop Meeting on March 4<sup>th</sup>. To facilitate the discussion, the Village Board at the February 19, 2019 Workshop requested that the design consultant and staff prepare supplemental parking exhibits for existing and proposed parking configurations options for designated streets in the Central Business District.

Included as attachments are the exhibits for Crescent Blvd from Main to Forest, Main St from Crescent to Pennsylvania, Main St from Hillside to Duane, and Pennsylvania from Main to Forest, depicting the existing conditions, as well as exhibits for proposed options of on-street parking configurations, with corresponding numbers of parking spaces, and street and sidewalk widths. Exhibits depicting the amenities that can be provided within the proposed sidewalk widths are also provided.

## Attachments

Exhibit P1: Crescent Blvd - Main to Forest: Existing Conditions  
Exhibit P2: Crescent Blvd - Main to Forest: Option 1 (Parallel Parking)  
Exhibit P3: Crescent Blvd - Main to Forest: Option 2 (30° Angled Parking)  
Exhibit P4: Crescent Blvd - Main to Forest: Option 3 (45° Angled Parking)  
Exhibit P5: Main St - Crescent to Pennsylvania: Existing Conditions  
Exhibit P6: Main St - Crescent to Pennsylvania: Option 1 (Parallel Parking Both Sides)  
Exhibit P7: Main St - Crescent to Pennsylvania: Option 2 (30° Angled Parking on East Side)  
Exhibit P8: Main St - Crescent to Pennsylvania: Option 3 (45° Angled Parking on East Side)  
Exhibit P9: Main St - Hillside to Duane: Existing Condition  
Exhibit P10: Main St - Hillside to Duane: Option 1 (Parallel Parking Both Sides)  
Exhibit P11: Main St - Hillside to Duane: Option 2 (Parallel Parking East Side Only)  
Exhibit P12: Pennsylvania Ave - Main to Forest: Existing Conditions  
Exhibit P13: Pennsylvania Ave - Main to Forest: Parallel Parking  
Exhibit P14: Amenities Provided For Various Sidewalk Widths  
Exhibit P15: Parking Stall Dimensions



# Glen Ellyn Parking Comparison

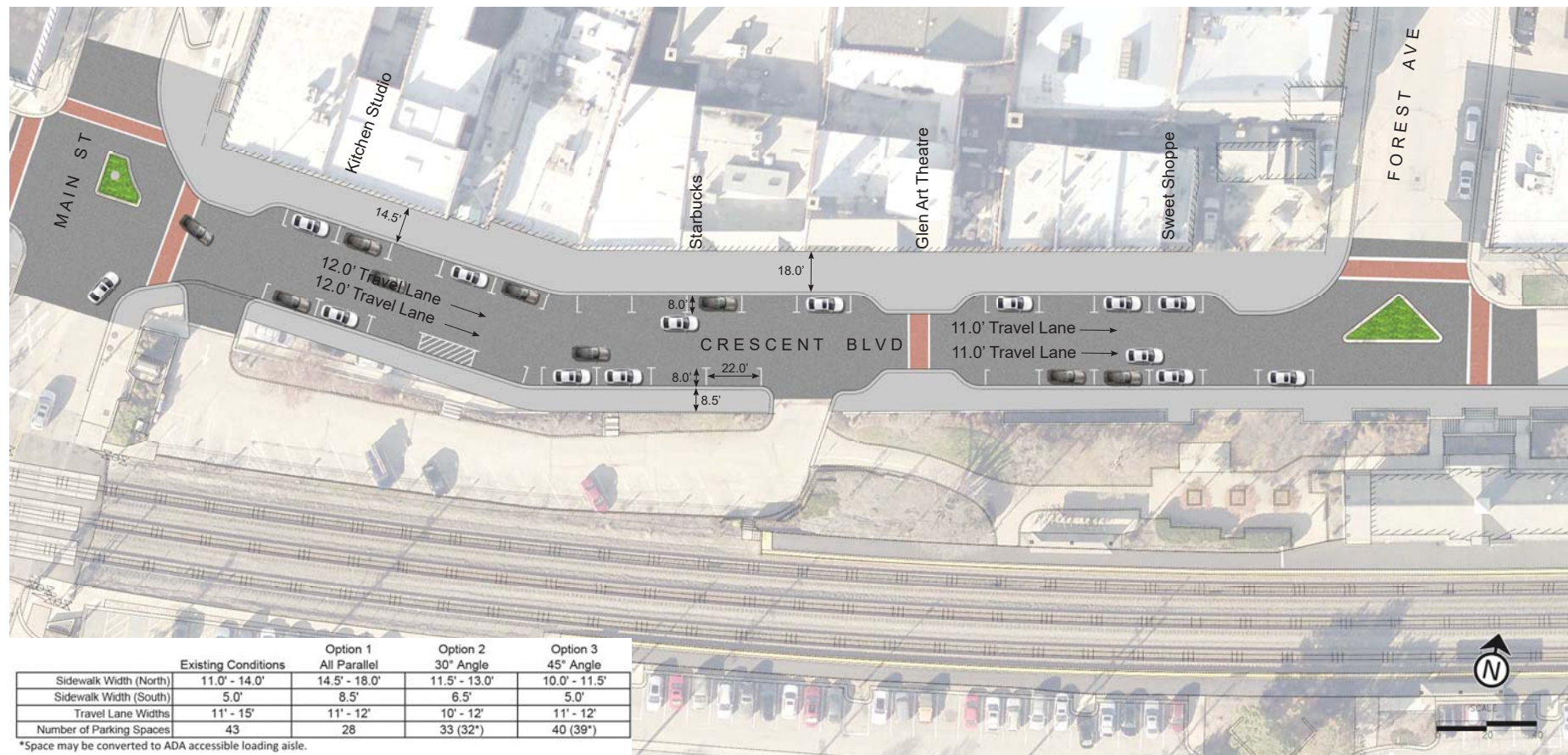
## Crescent Boulevard - Main St to Forest Ave Existing Conditions

Exhibit P1



March 1, 2019





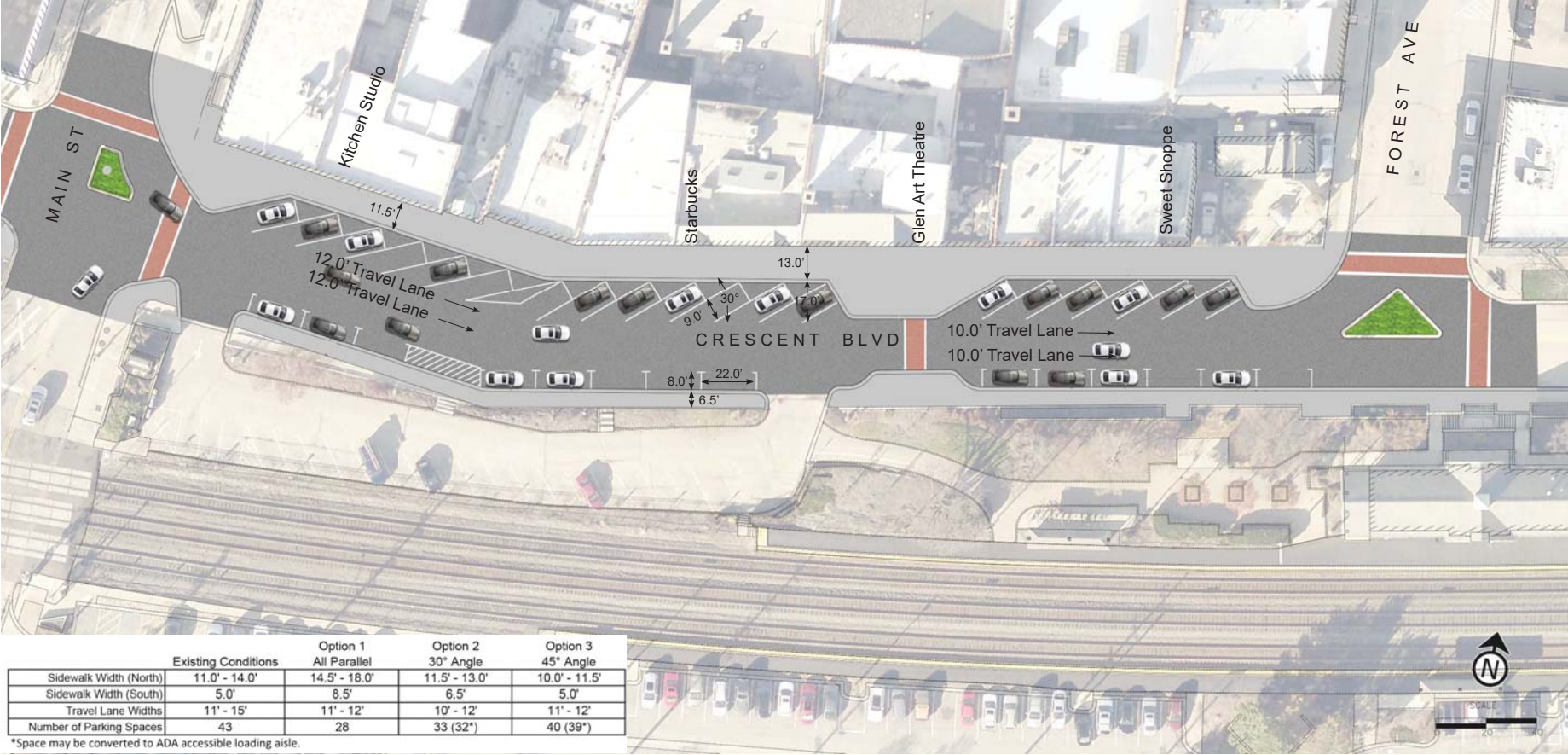
## Glen Ellyn Parking Comparison

Crescent Boulevard - Main St to Forest Ave  
Option 1 - Parallel Parking

Exhibit P2



March 1, 2019



# Glen Ellyn Parking Comparison

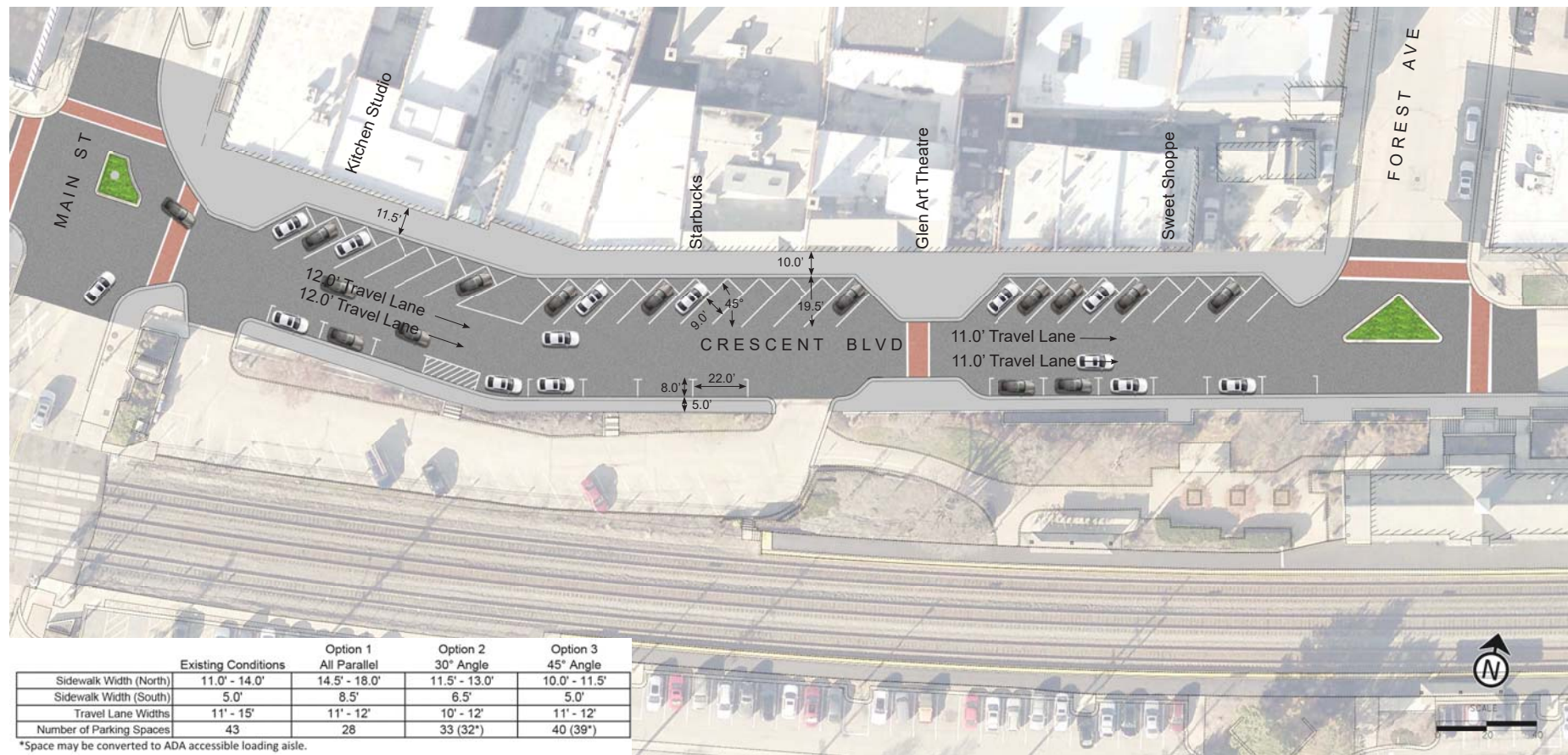
Crescent Boulevard - Main St to Forest Ave  
Option 2 - 30° Angled Parking

Exhibit P3



March 1, 2019





## Glen Ellyn Parking Comparison

Crescent Boulevard - Main St to Forest Ave  
Option 3 - 45° Angled Parking

Exhibit P4



March 1, 2019





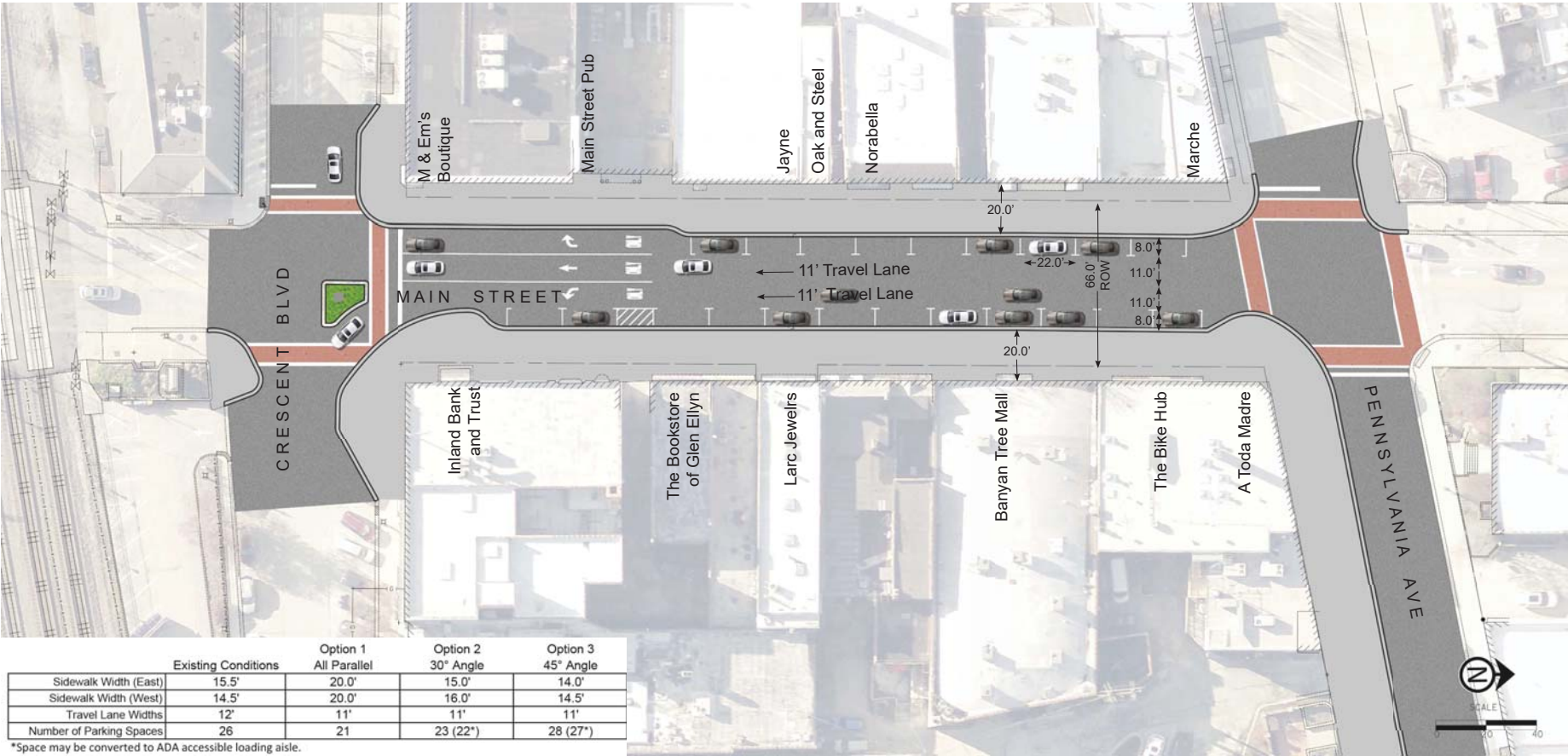
## Glen Ellyn Parking Comparison

### Main Street - Crescent to Pennsylvania Existing Conditions

Exhibit P5



March 1, 2019



# Glen Ellyn Parking Comparison

Main Street - Crescent to Pennsylvania  
Option 1 - Parallel Parking Both Sides

Exhibit P6



March 1, 2019





# Glen Ellyn Parking Comparison

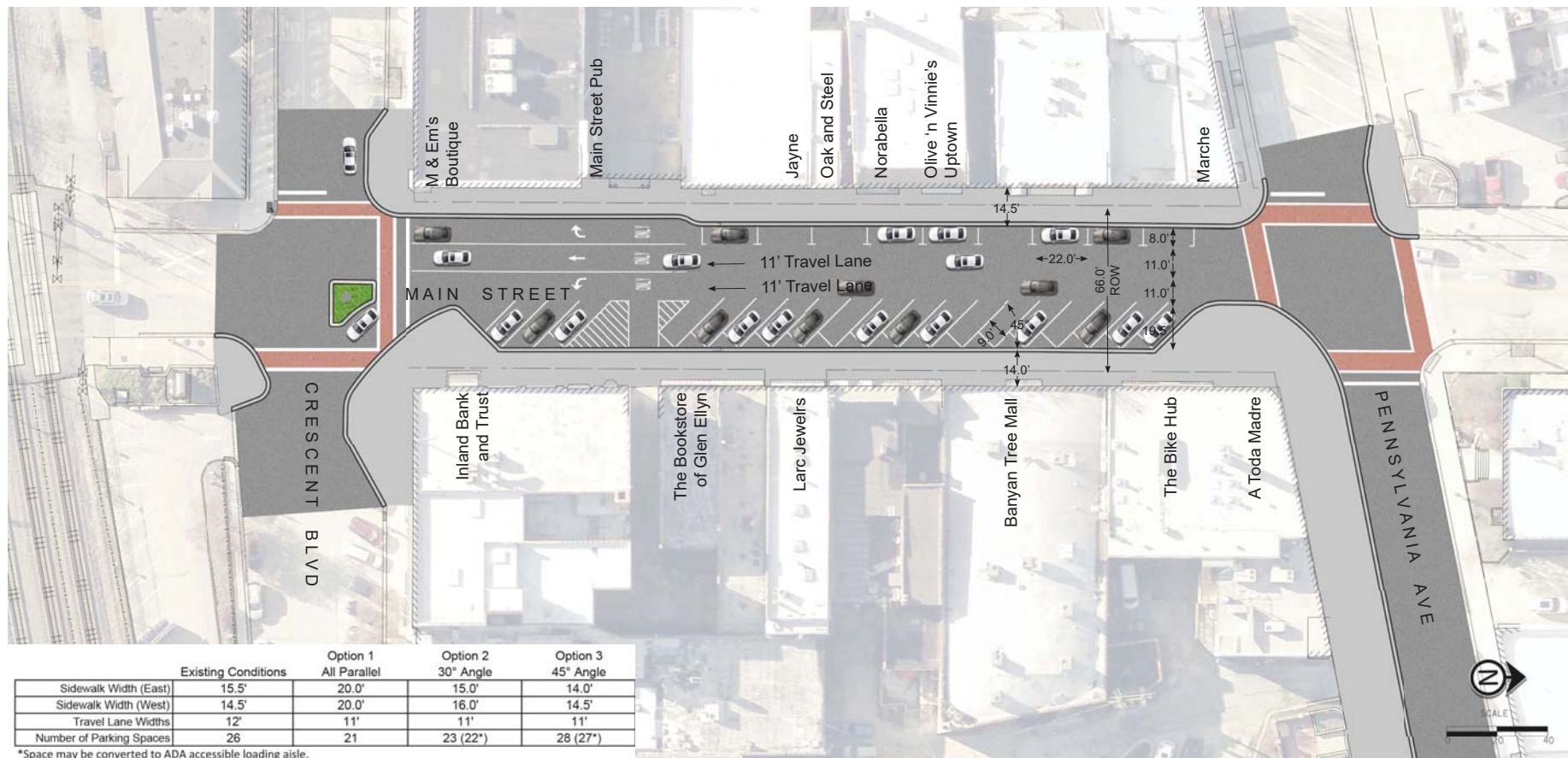
Main Street - Crescent to Pennsylvania  
Option 2 - 30° Angled Parking on East Side

Exhibit P7



March 1, 2019





## Glen Ellyn Parking Comparison

Main Street - Crescent to Pennsylvania  
Option 3 - 45° Angled Parking on East Side

Exhibit P8



March 1, 2019



# Glen Ellyn Parking Comparison

Main Street - Hillside to Duane  
Existing Conditions

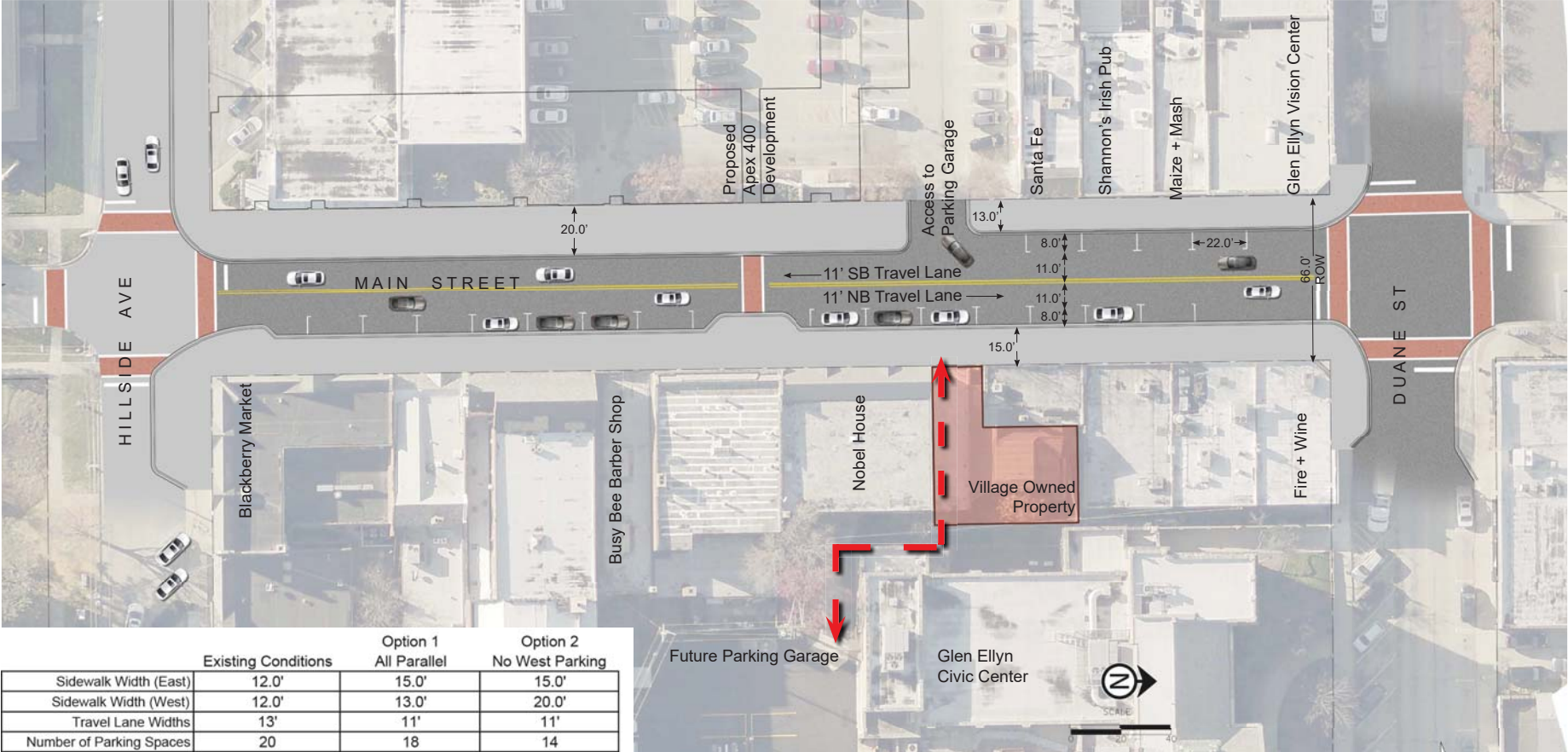
Exhibit P9



March 1, 2019







# Glen Ellyn Parking Comparison

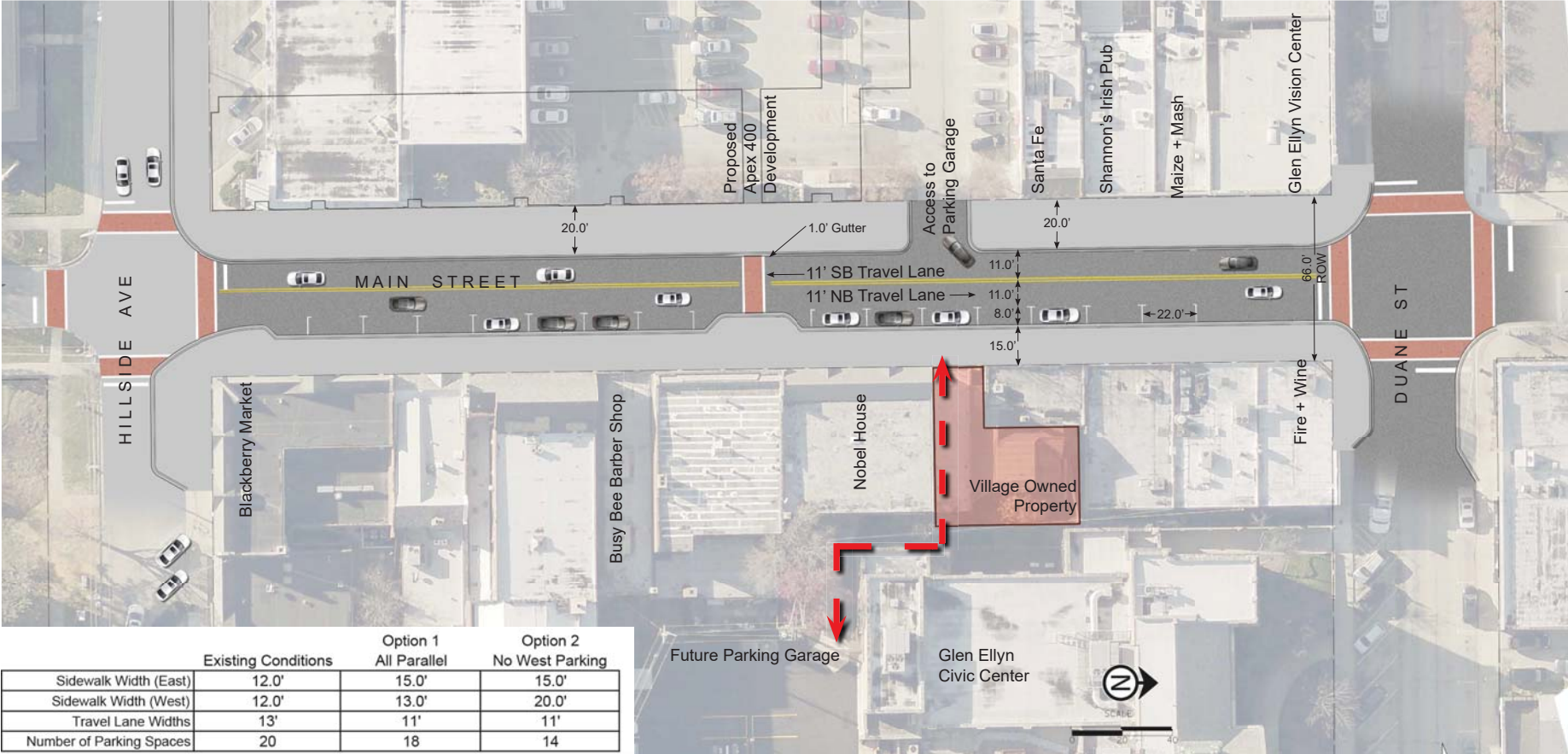
Main Street - Hillside to Duane  
Option 1 - Parallel Parking

Exhibit P10



March 1, 2019





# Glen Ellyn Parking Comparison

Main Street - Hillside to Duane  
Option 2 - No West Side Parking

Exhibit P11



March 1, 2019





# Glen Ellyn Parking Comparison

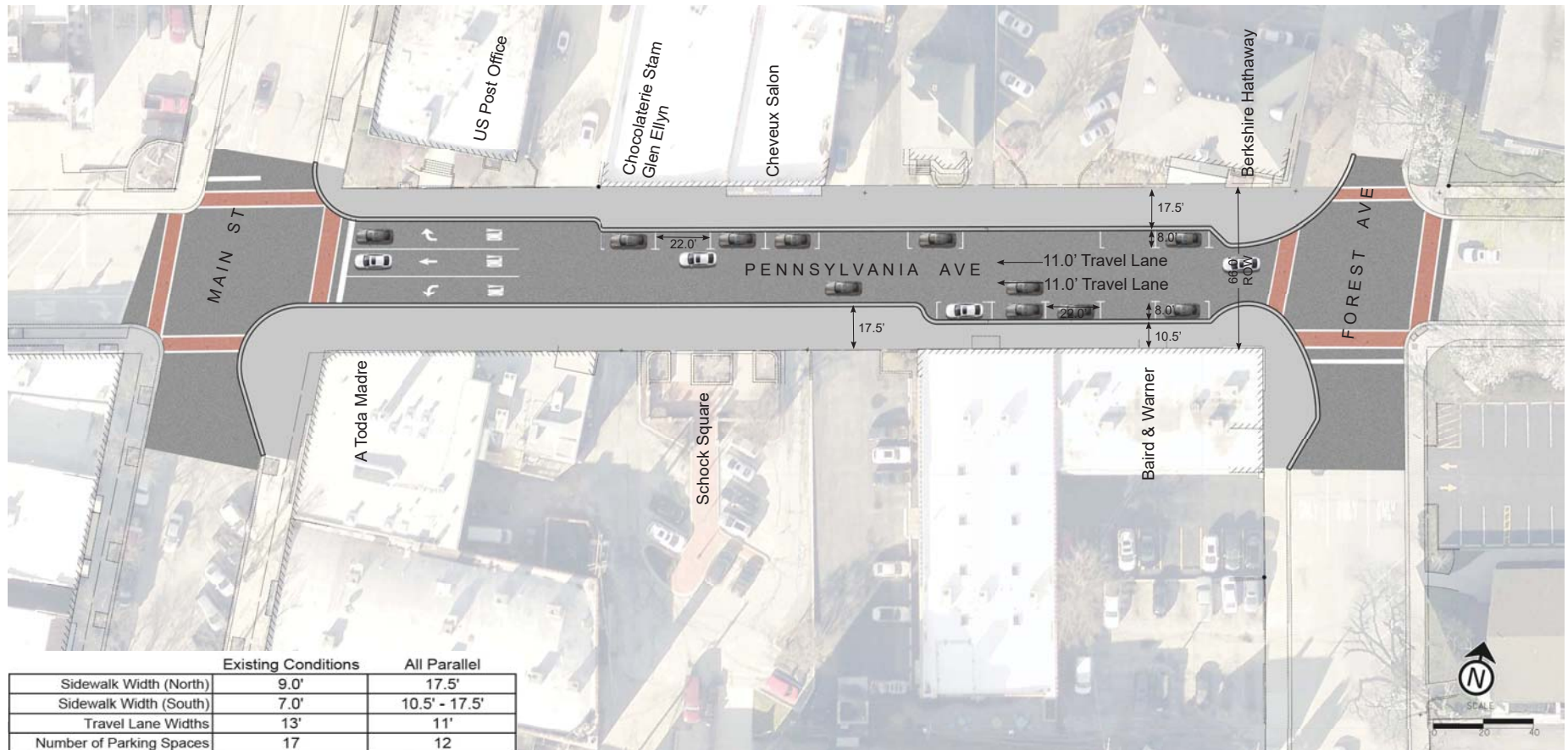
## Pennsylvania Ave - Main St to Forest Ave Existing Conditions

Exhibit P12



March 1, 2019





## Glen Ellyn Parking Comparison

### Pennsylvania Ave - Main St to Forest Ave Option 1 - Parallel Parking

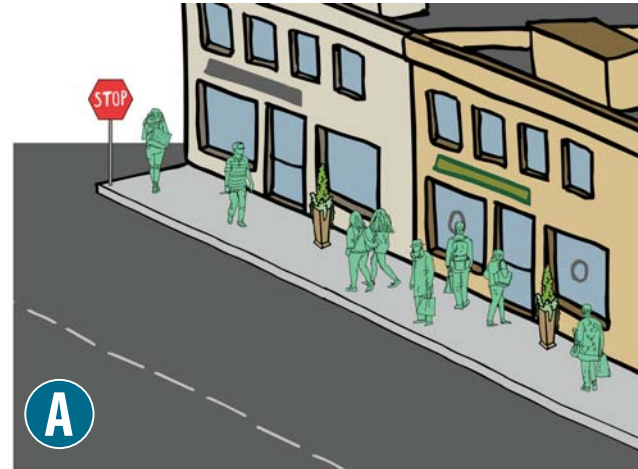
Exhibit P13



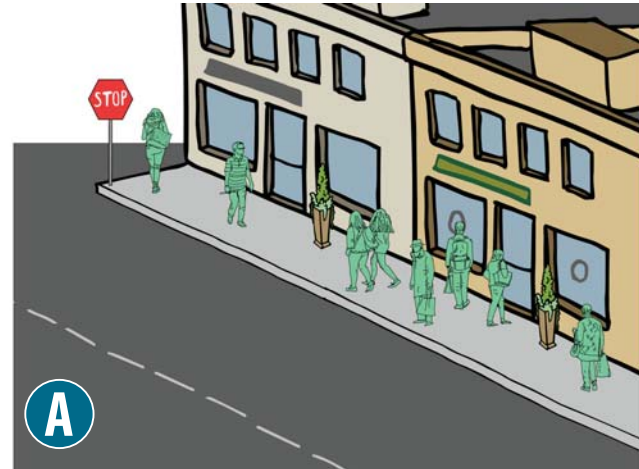
March 1, 2019



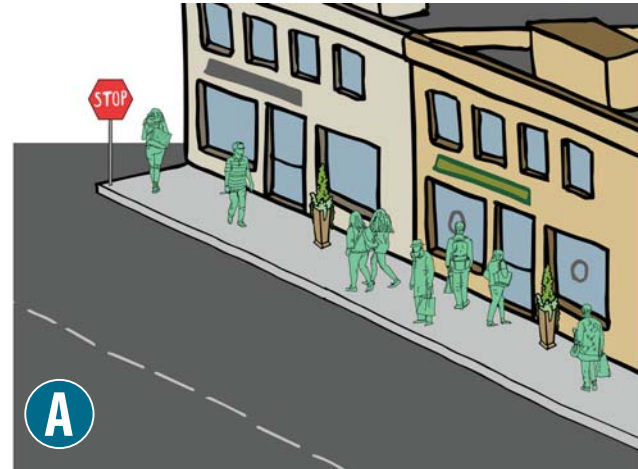
|  | East Sidewalk Zone Width              |  | West Sidewalk Zone Width              |  |
|--|---------------------------------------|--|---------------------------------------|--|
|  | Option 1                              |  | Option 1                              |  |
|  | 20' Sidewalk Zone                     |  | 20' Sidewalk Zone                     |  |
|  | Parallel Parking                      |  | Parallel Parking                      |  |
|  | 8' Walking Route                      |  | 8' Walking Route                      |  |
|  | <b>C</b> Trees   Furniture   Planters |  | <b>C</b> Trees   Furniture   Planters |  |
|  | Cafes                                 |  | Cafes                                 |  |
|  | Option 2                              |  | Option 2                              |  |
|  | 15' Sidewalk Zone                     |  | 16' Sidewalk Zone                     |  |
|  | 30° Angle Parking                     |  | Parallel Parking                      |  |
|  | 8' Walking Route                      |  | 8' Walking Route                      |  |
|  | <b>B</b> Trees   Furniture            |  | <b>B</b> Trees   Furniture   Planters |  |
|  | No Planters   No Cafes                |  | Cafes only in tree zone               |  |
|  | Option 3                              |  | Option 3                              |  |
|  | 14' Sidewalk Zone                     |  | 14.5' Sidewalk Zone                   |  |
|  | 45° Angle Parking                     |  | Parallel Parking                      |  |
|  | 8' Walking Route                      |  | 8' Walking Route                      |  |
|  | <b>B</b> Trees   Furniture            |  | <b>B</b> Trees   Furniture            |  |
|  | No Planters   No Cafes                |  | No Planters   No Cafes                |  |



| East Sidewalk Zone Width |                                       | West Sidewalk Zone Width |                                       |
|--------------------------|---------------------------------------|--------------------------|---------------------------------------|
| Option 1                 | 15' Sidewalk Zone                     | 13' Sidewalk Zone        | 13' Sidewalk Zone                     |
|                          | Parallel Parking                      |                          | Parallel Parking                      |
|                          | 8' Walking Route                      |                          | 8' Walking Route                      |
|                          | <b>B</b> Trees   Furniture   Planters |                          | <b>B</b> Trees   Furniture   Planters |
| Cafes only in tree zone  |                                       | Cafes only in tree zone  |                                       |
| Option 2                 | 15' Sidewalk Zone                     | 20' Sidewalk Zone        | 20' Sidewalk Zone                     |
|                          | Parallel Parking                      |                          | No Parking                            |
|                          | 8' Walking Route                      |                          | 8' Walking Route                      |
|                          | <b>B</b> Trees   Furniture   Planters |                          | <b>C</b> Trees   Furniture   Planters |
| Cafes only in tree zone  |                                       | Cafes                    |                                       |



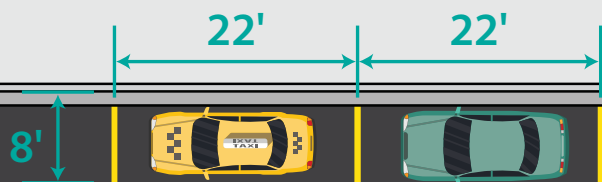
| North Sidewalk Zone Width |                                       | South Sidewalk Zone Width |  |
|---------------------------|---------------------------------------|---------------------------|--|
| Option 1                  | 14.5' - 18' Sidewalk Zone             | 8.5' Sidewalk Zone        |  |
|                           | Parallel Parking                      | Parallel Parking          |  |
|                           | 8' Walking Route                      | 8' Walking Route          |  |
|                           | <b>B</b> Trees   Furniture   Planters |                           |  |
|                           | Cafes only in tree zone               |                           |  |
| Option 2                  | 11.5' - 13' Sidewalk Zone             | 6.5' Sidewalk Zone        |  |
|                           | 30° Angle Parking                     | Parallel Parking          |  |
|                           | 8' Walking Route                      | 6' Walking Route          |  |
|                           | <b>A</b> No Trees   No Furniture      |                           |  |
|                           | No Planters   No Cafes                |                           |  |
| Option 3                  | 10' - 11.5' Sidewalk Zone             | 5' Sidewalk Zone          |  |
|                           | 45° Angle Parking                     | Parallel Parking          |  |
|                           | 8' Walking Route                      | 4.5' Walking Route        |  |
|                           | <b>A</b> No Trees   No Furniture      |                           |  |
|                           | No Planters   No Cafes                |                           |  |



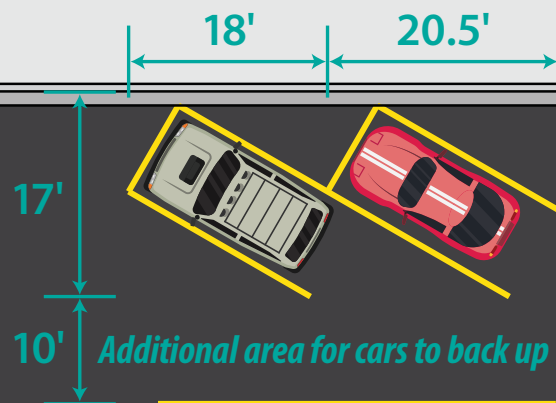


# Parking Space Options

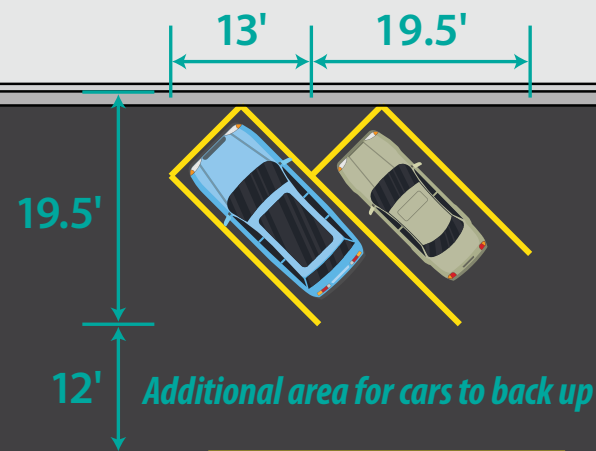
## Parallel



## 30° Angle

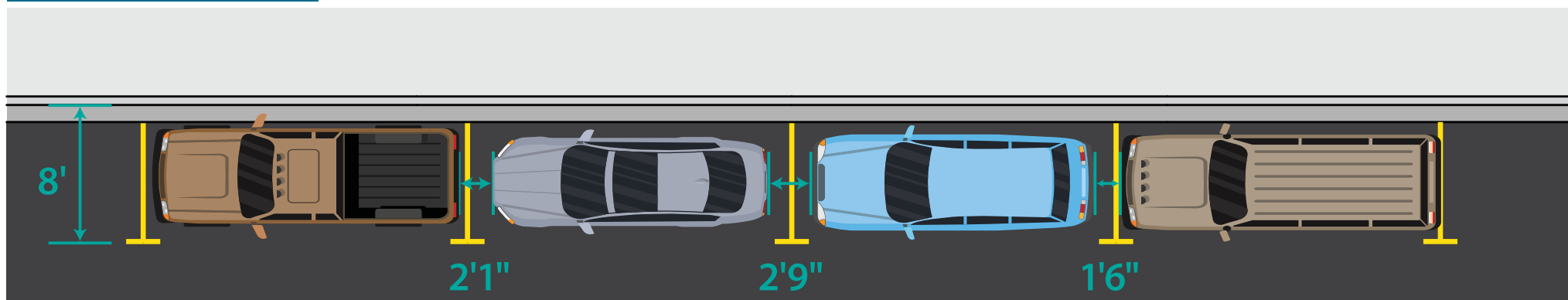


## 45° Angle

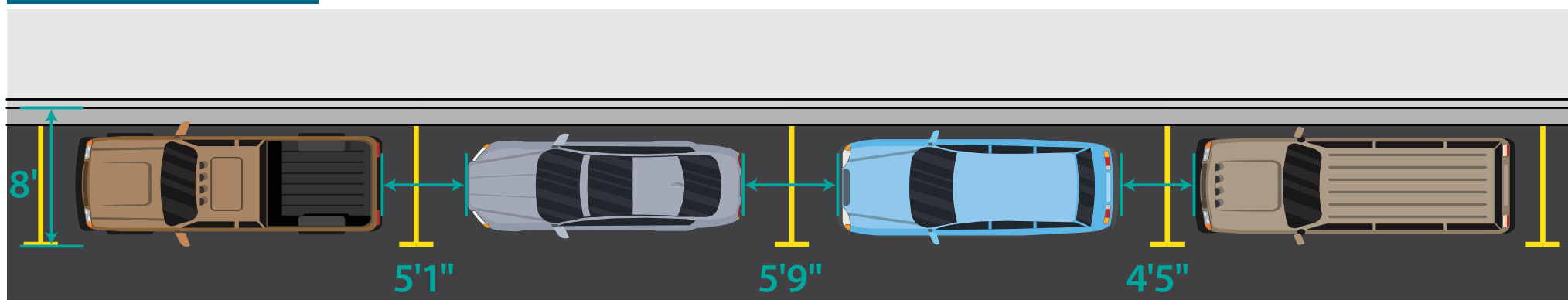


# Parallel Parking Space Comparison

## 19' Length Stalls

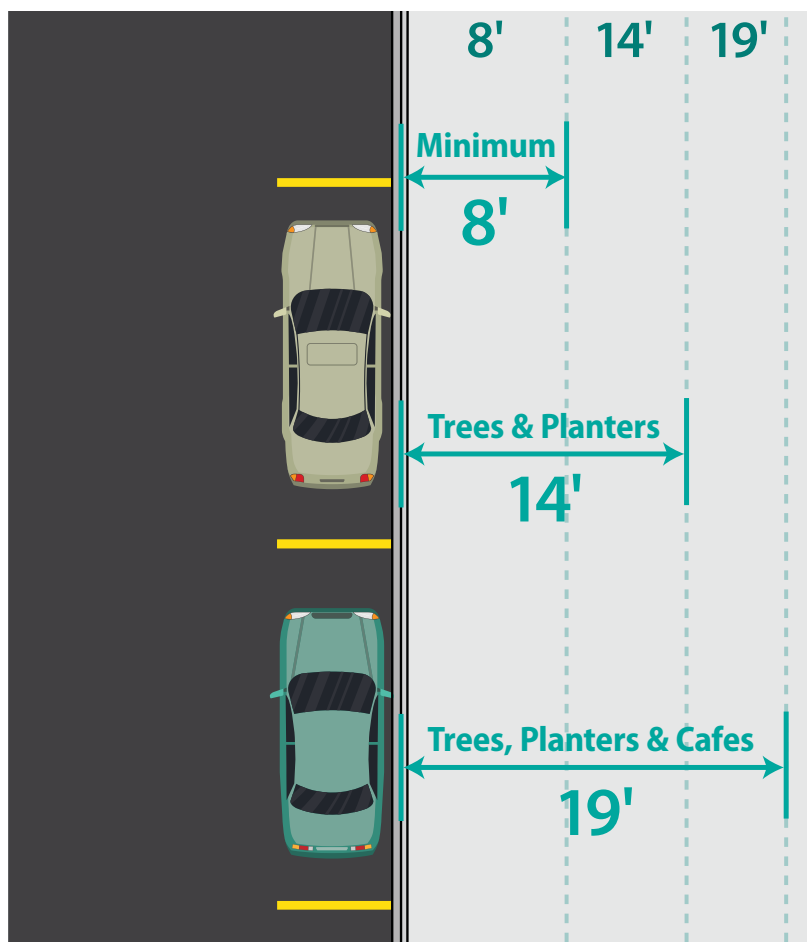


## 22' Length Stalls



# Sidewalk Space Comparison

## Sidewalks With Parallel Parking



## Sidewalks With Angled Parking

