


## **Interoffice Memorandum**

**to:** Members of the Capital Improvements Commission

**from:** Bob Minix, Professional Engineer 

**subject:** Hawthorne Reconstruction Project  
Street Width Issues and Staff Recommendation for CIC Consideration

**date:** July 8, 2011

### ISSUE

Glen Ellyn has initiated design of a project to reconstruct Hawthorne within the Village, from the Wheaton border on the west (at Hadley Junior High School) to the terminus on the east (at Ellyn Avenue and Glenbard West High School). Included with the planned work will be the rehabilitation of Pleasant between Cottage and Hawthorne. The overall project will consist of various underground improvements to the water, sanitary sewer and storm sewer systems and complete rebuilding of the Hawthorne roadway with a concrete pavement. Construction of the project is scheduled for the spring and summer of 2012 and it is the intent to rebuild the entire corridor next year.

A total of about one mile of roadways will be improved with the project. The current construction cost estimate for the project is \$4.5 million using strictly Village funds. This will be a very major project and, in fact, will constitute the entirety of the Village's 2012 roadway rehabilitation program.

Hawthorne is currently a curbed street at a constructed width of 21 ft. from back-of-curb to back-of-curb. Except for the very west end of the roadway near Hadley, no parking is allowed on either side of the street. The corridor has public sidewalk on both sides except for the segment on the south side of Hawthorne between Park and Ellyn.

Interest in the project by area residents has been significant, with numerous appearances at recent Capital Improvements Commission meetings. Two items in particular have been the focus of resident concern: roadway width and new sidewalk installation where none currently exists. This memorandum will concentrate on the street width issue, with new sidewalk considerations to be taken up at a later time. The overwhelming sentiment expressed by residents to date on the street width issue has been to maintain the current roadway footprint and not to widen it.

Resolution 01-12, a Resolution To Establish Various Design Criteria and Policies Associated with the Reconstruction of Roadways in the Village of Glen Ellyn, was developed to provide a consistent design basis for streets undergoing major rehabilitation work. Per the Village's Comprehensive Plan, Hawthorne is considered a Neighborhood (or Minor) Collector Street providing access within a neighborhood to local centers. Section Two of Resolution 01-12, Street Width, states that "For

existing collector and arterial streets when reconstructed, the street width should be 25 feet from back-of-curb to back-of-curb." Excerpts from Resolution 01-12 pertaining to street width are enclosed for reference. Given the early and obvious resident concern about the roadway cross section, staff has authorized a preliminary engineering phase for the Hawthorne Project to carefully examine the width issues and to develop information and analyses that will assist in arriving at an informed decision on the matter, rather to rely solely on the guidance of Resolution 01-12 throughout the design phase.

In April the Village retained Engineering Resource Associates of Warrenville to provide preliminary and detailed engineering services for the Hawthorne Reconstruction Project. Since the inception of engineering, the consultant team has performed traffic counts in the project area, completed field surveys and created base sheets showing existing features. Two possible street layouts have been developed at this stage, one involving no change in footprint (21 ft. from back of curb to back of curb), the other a widened roadway of 25 ft. back-to-back, representing the probable extremes of roadway width. Both the consultant and Village team have performed other investigations to determine costs, impacts, pros and cons of the various roadway widths. These analyses have been ongoing, culminating in a presentation at a public meeting held on June 28, 2011 where the focus was almost exclusively on the roadway width issue.

### **ACTION REQUESTED**

The Capital Improvements Commission is the designated body to provide an initial review and consideration of exception requests to the design criteria policies establish by Resolution 01-12. It is proposed that the CIC consider the issue of the appropriate street width for Hawthorne at the July 12, 2011 regular meeting and provide a recommendation to the Village Board; **this recommendation would be in the range of 21 ft. to 25 ft. b-b, with width variations along the Hawthorne corridor considered if appropriate.** All residents within the near-project area received a letter inviting them to the June 28 public meeting and advising them of the July 12 CIC meeting. All participants in the June 28 meeting were encouraged to attend the upcoming CIC meeting.

### **BACKGROUND**

A website has been established by the consultant as a repository for various project reports, plans, meeting summaries and other information. The project information is available at: [www.eraconsultants.com](http://www.eraconsultants.com). Excerpts from the various reports and data will be appended to this memorandum, with the full data available via the website.

Results from the preliminary engineering phase of the project are contained in a letter report authored by ERA president Rod Beadle and dated July 7, 2011. This information is very important to this discussion and should be examined fully and carefully. The project issues covered in the letter report will also be discussed later in this memorandum.

The website contains an agenda, copy of the PowerPoint presentation and summary of the public meeting that was held on June 28, 2011 at the Civic Center. Primary concerns expressed by residents at the meeting regarding street width related to traffic speeds, pedestrian safety, tree impacts and home values. All attendees appeared to support maintaining the current street footprint when Hawthorne is reconstructed.

## STREET WIDTH DECISION FACTORS

There are a number of items that can be considered when discussing the issue of roadway width. The following discussion, in many cases, is supplementary to the ERA preliminary design letter report.

- Precedence – The Capital Improvements Commission has considered the street width issue on a number of occasions, formally reviewing ( and ultimately recommending) design exception requests for slightly wider roadways associated with the 2008 Parkside-Summerdale project and this year’s Sunset-Turner project, as well as a more informal discussion on the 2006 Prospect reconstruction project where the CIC supported a wider cross section, but the ultimate Board decision was to maintain a narrow roadway. Parking was a major consideration for the roadways where wider cross sections were sought; the issues with Prospect were related to tree impacts and resident concerns about increased traffic and speeds believed to be anticipated with a wider roadway. The Prospect situation is similar to Hawthorne in that both projects involved collector-type streets and most corridor residents oppose widening. All in all, the CIC has sought to generally uphold the design criteria established by Resolution 01-12 but within a context that considers site-specific factors.
  
- Stakeholder Input – Village staff held discussions with representatives from school districts 41 and 87 and reached out for input from the Police Department and Fire Company on the issue of Hawthorne roadway width. In general, all these entities were neutral on street width, citing no overt or compelling difficulties with the current street width and taking a stance neither for or against widening. Both school districts requested consideration of possible design solutions to very localized traffic movement situations at each school site, separate from the general street width issue.
  
- Parking – There has been little or no discussion on modifying current parking restrictions throughout the corridor.
  
- Emergency Access – With no changes in parking, emergency access would only be marginally improved by a different roadway cross section.
  
- Traffic and Speed – It is not anticipated that the selected width of Hawthorne will be a significant factor in the number or speed of vehicles using the roadway.
  
- Level of Service / Safety – Existing accident history along the Hawthorne corridor does not show that the existing roadway width is a significant contributing factor other than likely some relationship to the number of fixed object incidents, which constituted 20% of the three-year record examined. Existing sidewalks are generally situated well away from the edge of the roadway; even with a widened roadway, IDOT minimum criteria for setbacks are surpassed.

The League of Illinois Bicyclists (<http://www.bikelib.org/bike-planning/bicycle-level-of-service>) provides a calculator that considers various inputs and delivers a level of service rating for both bicyclists (BLOS) and pedestrians (PLOS). These ratings provides a measure of the apparent compatibility level of a corridor with the proposed use and can be utilized to compare the impacts of various design factors – such as roadway width, pavement condition and buffering offered by parkways and trees – on the suitability / safety to bicyclists and walkers. Using this calculator, three scenarios were examined: existing Hawthorne and two

reconstructed Hawthorne sections (21 ft. b-b and 25 ft. b-b). The results are attached hereto and indicate that there is a significant betterment in the BLOS for any reconstruction scenario due to much improved pavement condition (from very low to moderately high compatibility) and only slight degradation in PLOS due to decreased parkway width (very high compatibility in each scenario run).

- ❑ Tree Impacts – The tree survey indicates significant concern with a wider street due to impacts on tree root systems and to collateral impacts on tree shape and form due to pruning resulting from the relocation of utility poles. This is a forceful factor favoring a narrower street.
- ❑ Utility Pole Impacts – Most poles are within three feet of the existing back of curb. Any roadway width beyond 22 ft. b-b will require a significant number of pole relocations.
- ❑ Costs – The cost of widening for the Hawthorne project appears to be about \$26,000 per foot of additional roadway width.
- ❑ Impervious Area – A wider roadway results in a greater impervious area footprint, thus increasing runoff during storm events and reducing green space. The net impervious increase when widening the roadway from 21 ft. to 25 ft. b-b is about 10-15%. There are no known significant flooding problems in the corridor.
- ❑ Driveway Approach Configurations – A change in roadway width from 21 ft. to 25 ft. would worsen driveway slopes on the order of 2-3%. Some driveways in the corridor are already quite steep, greater than the maximum desirable slope of 10%.

## **RECOMMENDATION**

**Staff Recommendation** – As parking does not appear to be a consideration for the Hawthorne corridor, contemplation of reconstructed roadway widths less than 25 ft. back-to-back is feasible. Possible lane widths per established national design standards vary between 9 and 12 ft. for this type of urban collector street. In consideration of all the various factors discussed above, a narrower street width is recommended. **A 9 ft. lane width coupled with B-6.18 curb and gutter would result in a total roadway width of 22 ft. and this is the recommended cross section. Furthermore, there does not appear to be any compelling reason to modify the width of the roadway along the length of the corridor.** Construction of a 22 ft. wide street would result in a 6-inch widening on each side of the street beyond the current roadway footprint.

The CIC is requested to consider staff and resident input and develop their own recommendation regarding the design street width associated with the reconstruction of Hawthorne. Consistent with the above staff recommendation, a suggested form of a motion is presented below that may be modified at the actual time it is made:

**It is the recommendation of the Glen Ellyn Capital Improvements Commission that the street width for the reconstruction of Hawthorne be a uniform 22 ft. from back-of-curb to back-of-curb for the proposed 2012 Hawthorne Reconstruction Project.**

Upon approval by a majority of commissioners, the CIC recommendation will then be forwarded to the Village Board for their consideration and final decision.

RESOLUTION NO. 01-12

RESOLUTION TO ESTABLISH VARIOUS DESIGN CRITERIA AND POLICIES  
ASSOCIATED WITH THE RECONSTRUCTION OF ROADWAYS  
IN THE VILLAGE OF GLEN ELLYN

WHEREAS, the Village of Glen Ellyn ("the Village") is now embarking on a Long Term Street and Storm Sewer Improvements Program ("the Program") funded by a combination of General Obligation Bonds (approved by a referendum passed in the November 2000 general election), Utility Tax funds and Real Estate Transfer Tax proceeds; and

WHEREAS, the Program includes 17 major storm sewer improvement projects, and associated street rehabilitation, at locations throughout the Village; and

WHEREAS, the Program provides for the reconstruction of over 10 miles of roadways, of which over 7 miles are currently without curbs and over 3 miles are curbed; and

WHEREAS, numerous design choices and alternative approaches are available for consideration when a roadway is entirely rebuilt; and

WHEREAS, design criteria and policy issues should be developed, discussed and established early in the program for use in future street reconstructions; and

WHEREAS, it is beneficial to establish uniform roadway design parameters and policies so that staff, consulting engineers and Village residents have a documented basis from which to proceed with the implementation of street reconstruction projects and to address inquiries; and

WHEREAS, Village staff developed a list of 12 pertinent issues and policies, provided background information and current practices on those issues, proposed options for future implementation, and provided input and comment on alternatives; and

WHEREAS, the Capital Improvements Commission, at its March 13, 2001, meeting, reviewed the staff information on the issues and policies and provided recommendations; and

WHEREAS, the Village Board discussed roadway project issues and alternatives at its March 19, 2001, workshop meeting and finalized the design parameters and policies presented hereinafter; and

WHEREAS, a detailed compilation and narrative of the issues, alternatives, discussions, recommendations and decisions concerning the roadway construction design criteria and policies is included herewith as Attachment A;

NOW, THEREFORE, BE IT RESOLVED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF GLEN ELLYN, DUPAGE COUNTY, ILLINOIS, IN THE EXERCISE OF ITS HOME RULE POWERS, as follows:

SECTION ONE: The issues identified and discussed regarding street rehabilitation designs and policies included (in the general order of importance):

Street Width

Curb and Gutter Construction

New Sidewalk Installation

Driveway Approach Removal and Replacement

Private Property Drainage Considerations

Pavement Material

Contractor Bonus / Penalty Provisions

Street Lighting

Parkway Tree Planting Program

Multi-use Paths

Traffic Calming Devices

Service Walks / Carriage Walks

**SECTION TWO:** Street Width (see Attachment A-1)

The following design criteria will apply:

- For existing local streets with curbs, the reconstructed street width (from back-of-curb to back-of-curb) should not be changed.
- For existing collector and arterial streets when reconstructed, the street width should be 25 feet from back-of-curb to back-of-curb.
- For existing local streets currently without curbs, the reconstructed street width should be 21 feet from back-of-curb to back-of-curb.

**SECTION THREE:** Curb and Gutter Construction (See Attachment A-2)

A barrier-type curb and gutter should be installed on all streets in order to better define the pavement edge, especially during snow plowing operations; provide better parkway protection when vehicles park on the street; provide lateral support to the pavement; and more effectively control and collect street drainage.

**SECTION FOUR:** New Sidewalk Installation (See Attachment A-3)

Sidewalks should be constructed on both sides of the street for the general use of all pedestrians.

**SECTION FIVE:** Driveway Approach Replacement (See Attachment A-4)

The replacement of aprons (that portion of a driveway in the public right-of-way generally located between the sidewalk and the curb) should be provided for all driveways along a street undergoing complete reconstruction or enhanced resurfacing when all existing curb and gutter is being replaced.

**SECTION SIX: Private Property Drainage Considerations (See Attachment A-5)**

During construction projects, reasonable and appropriate provisions in the public right-of-way should be made to provide property owners with connection points for private drain pipes. Storm sewer improvements on private property remain the responsibility of the residents (as the benefits of the improvement accrue primarily to them), except in cases where stormwater may originate from the public right-of-way.

**SECTION SEVEN: Pavement Material (See Attachment A-6)**

During the design phase, the consulting engineer should perform analyses to ascertain whether concrete or asphalt should be used in the reconstruction of the roadway. It is anticipated that concrete will be used on most arterial and collector street reconstructions and asphalt on local streets.

**SECTION EIGHT: Contractor Bonus / Penalty Provisions (See Attachment A-7)**

Bonus provisions (applicable to the substantial completion date), based on a per day rate with a maximum limit, should be incorporated into construction contracts to provide incentive for timely completion of the projects. As a general rule of thumb, 2% of the contract cost should be provided as the maximum available bonus amount, but no less than \$10,000 and probably no more than \$50,000. A corresponding penalty provision – with no maximum limit – will apply for unwarranted delays beyond the prescribed substantial completion date. Liquidated damages will be due for delays beyond the final completion date.

**SECTION NINE: Street Lighting (See Attachment A-8)**

In accordance with project needs, street lights should be replaced or re-wired on a one-for-one replacement basis. There should be no general change in the current lighting configuration, which generally consists of a single overhead light at intersections with a mid-block light for long blocks.

**SECTION TEN:** Parkway Tree Planting Program (See Attachment A-9)

Planting efforts during the five year tree program should be coordinated with the street rehabilitation program to the maximum practicable extent . Where street corridors are scheduled for reconstruction in the next five years, tree planting should occur only after roadway work is complete. For corridors scheduled for reconstruction in the next 6 to 10 years, planting should be postponed until those roadway projects are complete.

**SECTION ELEVEN:** Multi-use Paths (See Attachment A-10)

Multi-use / bike paths generally should not be a design consideration during the roadway reconstruction process at this time. Generally, there is little available right-of-way for the extra-width required (generally at least 10 feet) for multi-use paths. This issue should be deferred until the Village has a well-defined bikeway plan and most potential corridors have been identified.

**SECTION TWELVE:** Traffic Calming Devices (See Attachment A-11)

A relatively narrow roadway width is a suitable method of reducing vehicle speeds on streets. Physical impediments, such as speed humps and traffic circles, should not be incorporated into the design of roadways as a normal practice. These elements may be appropriate in certain (rare) circumstances and can be retrofitted, if required.

**SECTION THIRTEEN:** Service Walks / Carriage Walks (See Attachment A-12)

Private sidewalks in the street right-of-way area should be replaced if parking is allowed on the street; in no-parking areas, the walkways should be removed and not replaced, except in special cases such as churches.

**SECTION FOURTEEN:** The issue of undergrounding overhead utility wires when a street is reconstructed requires additional study to more fully determine costs, scheduling implications,

project priorities and management. Village Boards and staff will continue to discuss the development of a utility undergrounding policy for Glen Ellyn.

SECTION FIFTEEN: The various design criteria and policies described in this Resolution may be modified or adjusted to meet the special circumstances of a particular project, subject to the review and approval of the Village Board.

SECTION SIXTEEN: This Resolution shall be in full force and effect from and after its passage and approval.

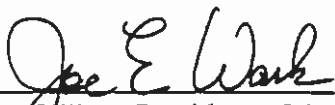
PASSED by the President and Board of Trustees of the Village of Glen Ellyn, Illinois, this 9TH day of APRIL, 2001.

AYES: STRAYER, BUCKLEDFE, KOHNKE, MELADY, O'BRIEN, PERLSTEIN


NAYS: - 0 -

ABSENT: - 0 -

APPROVED by the Village President of the Village of Glen Ellyn, Illinois, this 9TH day of APRIL, 2001.

  
Village President of the  
Village of Glen Ellyn, Illinois

ATTEST:

  
Village Clerk of the  
Village of Glen Ellyn, Illinois

## **Attachment A**

### **POLICY ISSUES FOR STREET REHABILITATION PROJECTS**

**Approved as part of Resolution No. \_\_\_\_\_ dated \_\_\_\_\_**

The following 12 items are issues associated with the rehabilitation of roadways. The format for the presentation and discussion of each item consists of an issue statement; a background/current practice section; an options section; a Public Works opinion section; a Capital Improvements Commission discussion and recommendation section; and Village Board discussion and final determination section.

The items identified and discussed regarding street rehabilitation policies include (in the general order of importance):

1. Street Width (Attachment A-1, p. 2)
2. Curb and Gutter Construction (Attachment A-2, p. 5)
3. New Sidewalk Installation (Attachment A-3, p. 6)
4. Driveway Approach Removal and Replacement (Attachment A-4, p. 8)
5. Private Property Drainage Considerations (Attachment A-5, p. 10)
6. Pavement Material – Asphalt or Concrete (Attachment A-6, p. 12)
7. Bonus / Penalty Provisions (Attachment A-7, p. 13)
8. Street Lighting (Attachment A-8, p. 15)
9. Parkway Tree Planting Program (Attachment A-9, p. 17)
10. Multi-use Paths (Attachment A-10, p. 18)
11. Traffic Calming Devices (Attachment A-11, p. 19)
12. Service Walks / Carriage Walks (Attachment A-12, p. 20)

These items were discussed with the Capital Improvements Commission at their regular March meeting conducted March 13, 2001 and with the Village Board at their workshop meeting held March 19, 2001.

Village of Glen Ellyn  
**POLICY ISSUES FOR STREET REHABILITATION PROJECTS**

Approved as part of Resolution No. \_\_\_\_\_ dated \_\_\_\_\_

**Attachment A-1**

**STREET WIDTH**

**Issue:** What should be the width of roadways when significant renovation is planned?

**Background / Current Practice:**

The issue of street width became a controversial issue when the Village embarked on roadway improvements projects funded by the 1987 bond issues. In particular, the reconstruction of West Hill Avenue in 1988 engendered prolonged discussions on appropriate street widths and the impacts of street widening. West Hill Avenue (west of Prospect) was generally widened from about a 21 ft. back-to-back of curb (b-b) distance to a 25 ft. b-b; the balance of Hill Avenue was already 25 ft. b-b. The 1987 North Main Street project (funded primarily by federal monies) changed the street width from 25 ft. b-b to 28 ft. b-b, with the 28 ft. distance established as a compromise width with state and federal officials who originally wanted a street width well in excess of 30 ft. The 1988 Kenilworth project did not change the street width; the roadway is 21 ft. b-b. The Western Avenue project of 1992 also did not change the street width from 21 ft. b-b, although the Capital Improvements Commission and Village technical staff supported a moderate width increase of 2 to 4 ft.

Within the past 6 years or so, there has been just limited discussion on street widths for reconstruction projects. All major 2-lane road reconstructions have gone in at 25 ft. b-b, including Main Street – Fairview to Hillside (no change); Duane Street – Lorraine to Prospect (from 21 ft. b-b); Lorraine Road – Greenfield (Harwarden) to Duane (Phase I south of Hill was previously 21 ft. b-b; Phase II north of Hill previously was 25 ft. b-b in general, with the most northerly section actually 27 ft. b-b).

On the private development side, approved street widths for newer subdivisions have generally been less than the prescribed standard of 27 ft. b-b, with 21 ft. b-b commonly used (e.g. Baker Hill residential; Glen Arbor). The narrower street width allows for more greenspace and provides a larger planting area for trees. In addition, it is anticipated that the narrower street generally reduces vehicle speeds.

The issue of street width is particularly applicable to situations where there currently are no curbs on the streets. If the shoulders are included, the width of the street may vary significantly as shoulders may range from non-existent to parking-lane width in size.

In the early 1990's, the neighborhood streets in the Lowden – Coolidge – Dawes area west of Park Boulevard were reconstructed to a width of 27 ft. b-b. These streets were previously uncurbed and were originally designed to be constructed at 21 ft. b-b. Because adjacent property owners desired the additional width of street, primarily for parking purposes, and agreed to pay for the extra pavement with a 5 year special services area property tax, the wider street was installed.

Village of Glen Ellyn  
**POLICY ISSUES FOR STREET REHABILITATION PROJECTS**

Approved as part of Resolution No. \_\_\_\_\_ dated \_\_\_\_\_

**Options:**

The minimum street width is 21 ft. b-b. The maximum two lane street width, using the Sub-division code prescribed width, would be 27 ft. b-b. The larger width permits two-way traffic to (carefully) pass a parked car at the same time; street widths smaller than 27 ft. b-b would require one-at-a-time movement past a parked vehicle, with 21 ft. b-b the practicable minimum.

**Public Works Staff Opinion:**

- For existing local streets with curbs: maintain current width
- For existing collector and arterial streets when reconstructed: 25 ft. b-b
- For currently curbless streets: install the minimum width of street (likely 21 ft.); match nearby streets if that width is appropriate

As the situation warrants, case by case exceptions could be considered based on special needs or approved resident requests.

**Capital Improvements Commission Discussion and Recommendation:**

The CIC focused primarily on the width of streets currently without curbs. There was general agreement in the merit of having a "standard" street width for reconstruction. Since 25 ft. b-b was appropriate for collector and arterial streets and that, at a minimum, local streets should be at least 23 ft. b-b, a standard street width for streets undergoing reconstruction should be 25 ft. b-b. Parking restrictions may need to be considered so that emergency vehicle passage is always possible.

The Capital Improvements Commission recommended:

- Maintain existing width for local streets with curbs. There was limited interest in narrowing street widths during reconstruction to obtain more green space.
- Construct collector and arterial streets at 25 ft. b-b.
- For currently curbless streets: the pavement width should be at least 20 ft., thus making the back-of-curb to back-of-curb width a minimum of 23 ft. It was agreed that a width of 25 ft. should be the de-facto standard.

Village of Glen Ellyn  
**POLICY ISSUES FOR STREET REHABILITATION PROJECTS**

Approved as part of Resolution No. \_\_\_\_\_ dated \_\_\_\_\_

**Village Board Discussion and Final Determination:**

The Village Board discussion also focused primarily on the appropriate street width for streets to be reconstructed where no curb currently exists. The Trustees favored a relatively narrow street to be built, as many streets in Glen Ellyn (primarily the older local streets) have a width of 21 ft. b-b; the narrower streets promote the slowing of vehicles due to a general feeling of "tightness" and the presence of parked vehicles; and the width of parkway areas is maximized.

The Board determined that:

- For existing local streets with curbs, reconstruct at current width.
- For existing collector and arterial streets when reconstructed, the street width should be 25 feet from back of curb to back of curb.
- For existing local streets currently without curbs, the reconstructed street width should be 21 feet from back of curb to back of curb.

(end)

**BLOS and PLOS for the following road segment**

Lanes per direction:	1
Outside lane width:	10 ft
Paved shoulder/bike lane/marked parking width:	0 ft
Bidirectional ADT traffic volume:	3125 (veh/day)
Posted speed limit:	30 mph
Heavy vehicle percentage:	1%
FHWA's pavement condition rating:	2
% of segment with occupied parking:	0%
% of segment with sidewalks:	100%
Sidewalk width:	5 ft
Sidewalk buffer/parkway width:	14 ft
Buffer/parkway avg tree spacing:	50 ft

	Score	Level-of-service	Compatibility Level
BLOS:	4.72	E (4.51-5.50)	Very Low
PLOS:	1.53	B (1.51-2.50)	Very High

*Hawthorne - Existing*  
*21' b-b*

**BLOS and PLOS for the following road segment**

Lanes per direction:	1
Outside lane width:	8.5 ft
Paved shoulder/bike lane/marked parking width:	0 ft
Bidirectional ADT traffic volume:	3125 (veh/day)
Posted speed limit:	30 mph
Heavy vehicle percentage:	1%
FHWA's pavement condition rating:	5
% of segment with occupied parking:	0%
% of segment with sidewalks:	100%
Sidewalk width:	5 ft
Sidewalk buffer/parkway width:	14 ft
Buffer/parkway avg tree spacing:	50 ft

	Score	Level-of-service	Compatibility Level
BLOS:	3.38	C (2.51-3.50)	Moderately High
PLOS:	1.55	B (1.51-2.50)	Very High

*Hawthorne - Reconstructed*

*21' 6-6*

**BLOS and PLOS for the following road segment**

Lanes per direction:	1
Outside lane width:	10.5 ft
Paved shoulder/bike lane/marked parking width:	0 ft
Bidirectional ADT traffic volume:	3125 (veh/day)
Posted speed limit:	30 mph
Heavy vehicle percentage:	1%
FHWA's pavement condition rating:	5
% of segment with occupied parking:	0%
% of segment with sidewalks:	100%
Sidewalk width:	5 ft
Sidewalk buffer/parkway width:	12 ft
Buffer/parkway avg tree spacing:	66 ft

	Score	Level-of-service	Compatibility Level
BLOS:	3.19	C (2.51-3.50)	Moderately High
PLOS:	1.72	B (1.51-2.50)	Very High

*Hawthorne - Reconstructed*

*25' b-b*