

WINDSOR PARKWAY – ROSWELL ROAD INTERSECTION RELOCATION FEASIBILITY ANALYSIS

June 18, 2013



Windsor Parkway Intersection Overview

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Windsor Parkway Intersection Relocation Overview

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Project Background

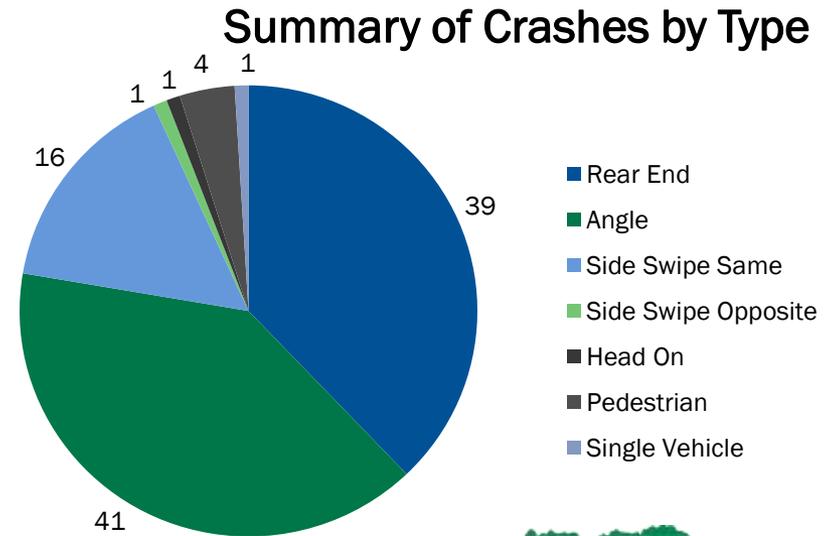
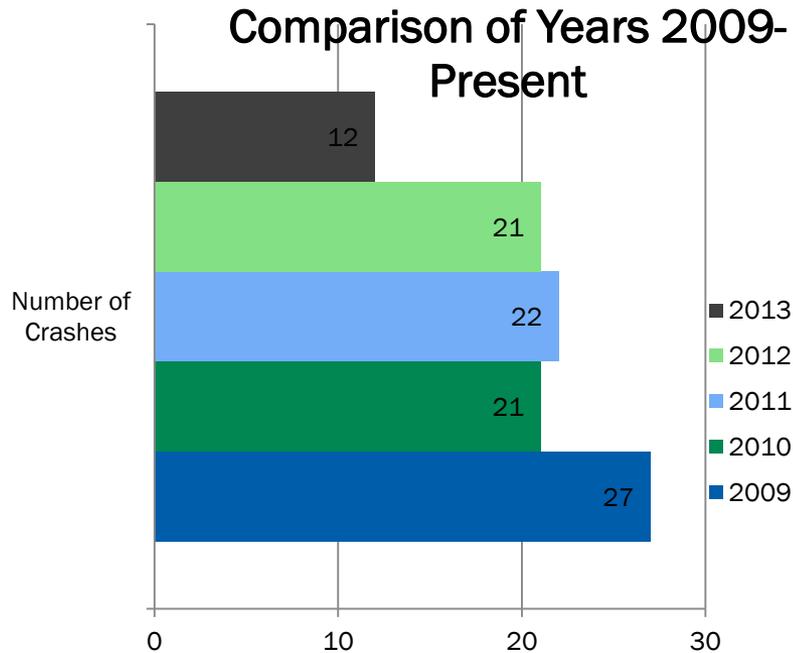
- Intersection Improvement Project has been identified in the following publicly vetted documents:
 - [Roswell Road Corridor LCI \(2008\)](#)
 - [Transportation Master Plan \(2008\)](#)
 - [2027 Comprehensive Plan \(2007\)](#)
- Zoning application triggered reviews by:
 - Georgia Regional Transportation Authority (GRTA) as a development of regional impact (DRI):
 - January 30, 2013: Notice of Decision (NOD) issued
 - Based on report, if JLB project is approved, the City must construct offsite improvements or risk losing federal funding
 - Input into DRI NOD solicited from regional and local entities such as:
 - Atlanta Regional Commission (ARC)
 - Georgia Department of Transportation
 - City of Atlanta
 - Concluded that Hedden St is entitled to full signalized Intersection

Windsor Parkway Intersection Relocation Overview

Accident Summary

High Accident Intersection

- 103 reported accidents from January 2009 to May 2013
- 47 of these are head on, angle, or opposite side swipe



Windsor Parkway Intersection Overview

Operational Summary – Existing Condition

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- Level of Service (LOS) E & F due to following:
 - Skew Angle - Windsor Pkwy intersects Roswell Rd at a 57° angle (90° is ideal)
 - Split-Phase - As a result of the skew angle, the signal cannot allow the east and west movements to occur at the same time for safety reasons and green time is reduced
 - Turn Lanes - Windsor Parkway is a 2 lane approach with a left thru and a right turn lane
- Separation and Queuing are not desirable:
 - Signal separation between the Roswell Road with Windsor Pkwy and W. Weiuca Rd is 700' (GDOT criteria currently requires 1,000' minimum)
 - Substandard separation creates vehicle stacking and weaving movements that degrade operations
 - The vehicle queue northbound on Roswell Road often blocks the intersection with Meadowbrook Road and can spill back through West Wieuca and often Weiuca Roads
- Traffic Volumes:
 - Existing volume of left turns from westbound Windsor Pkwy to southbound Roswell Road are at the threshold volume to warrant a dual left turn lane
 - Traffic volumes on Roswell Road are heavy and demand the majority of signal green time creating longer delays on Windsor Pkwy

Windsor Parkway Intersection Overview

Operational Summary – Future Condition

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- Level of Service (LOS) C projected due to the following:
 - Skew Angle: Corrected to a 90°
 - Split-Phase: Signal can run without split phase allowing improved operation (frees up an estimated 25 seconds of green time per cycle)
 - Turn Lanes: Windsor Pkwy configured with 2 left turn lanes in all current options under consideration
- Separation and Queuing are more desirable:
 - All current proposed options result in additional stacking and queuing length of approximately 300' additional. City and GDOT criteria currently requires 1,000' minimum.
- Traffic Volumes:
 - The new design does not reduce traffic volumes; however, it provides additional turn lanes and improved signal operation to improve the level of service at the intersection

Windsor Parkway Intersection Relocation Option #1A (Auction site)

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Windsor Parkway Intersection Relocation Option #1A

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- Pros:
 - Greatest level of service provides for dual left turns, dedicated through and right turn lanes
 - Provides a 50' buffer from Windsor Parkway to the townhomes
 - Increases queuing length
- Cons:
 - Impact to the buffer/backyards of adjacent townhomes
 - Largest footprint (five lanes) and largest number of parcels impacted
 - Second highest projected construction cost
 - Greatest impact on auction site

Windsor Parkway Intersection Relocation Option #1B

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- Pros:
 - Reduces total lanes at intersection to four
 - Provides a 50' buffer from Windsor Parkway to the townhomes
 - Reduces impact to auction site
 - Lowest project construction cost
- Cons:
 - Impact to the buffer/backyards of adjacent townhomes
 - Reduced level of service of overall intersection due to lack of dedicated right turn lane onto Roswell Road

Windsor Parkway Intersection Relocation Option #2 (Restaurant site)

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Windsor Parkway Intersection Relocation Option #2

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- Pros:
 - This option will not impact the auction site
 - Projected construction cost similar to Option #1B
 - Least amount of impact to homes on Hedden Street
- Cons:
 - Highest total construction cost
 - Displaces active restaurant
 - Least amount of queuing length along Roswell Road
 - Reduced level of service of overall intersection due to lack of dedicated right turn lane onto Roswell Road

Windsor Parkway Intersection Relocation Options Planning Level Cost Comparison

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- Option #1A (Auction site) - \$4.4M
- Option #1B (Auction site) - \$3.7M
- Option #2 (Restaurant site) - \$5.7M