ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 0013322
Hall County
GDOT District 1 - Gainesville
SR 53 Connector/SR 60 @ SR 60/SR 369
Intersection Improvements

OFFICE Design Policy & Support

DATE September 26, 2016

FROM Kim Phillips for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED CONCEPT REPORT**

Attached is the approved Concept Report for the above subject project.

Attachment

DISTRIBUTION:

Hiral Patel, Director of Engineering
Joe Carpenter, Director of P3/Program Delivery
Albert Shelby, State Program Delivery Engineer
Darryl VanMeter, State Innovative Delivery Engineer
Bobby Hilliard, Program Control Administrator
Cindy VanDyke, State Transportation Planning Administrator
Eric Duff, State Environmental Administrator
Andrew Heath, State Traffic Engineer
Angela Robinson, Financial Management Administrator
Lisa Myers, State Project Review Engineer
Monica Flournoy, State Materials and Testing Administrator
Patrick Allen, State Utilities Engineer
Richard Cobb, Statewide Location Bureau Chief
Brent Cook, District Engineer
Brandon Kirby, District Preconstruction Engineer
Robby Oliver, District Utilities Engineer
Lindsay Atnip, Project Manager
BOARD MEMBER - 9th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
LIMITED SCOPE PROJECT CONCEPT REPORT

Project Type: CMAQ, Turn Lanes
P.I. Number: 0013322
GDOT District: 1
County: Hall
Federal Route Number: N/A
State Route Number: 369, 60, 53 Conn
Project Number: N/A

Roadway intersection improvement at Jesse Jewell Parkway/Browns Bridge Rd/SR 369/SR 60 and John W. Morrow Jr. Parkway/Queen City Pkwy/SR 53 Conn/SR 60. Improvements will include the addition of right turn lanes on three approaches: northbound and southbound Jesse Jewel Pkwy and westbound Queen City Pkwy.

Submitted for approval:

Scott Jordan, PE, Southeastern Engineering, Inc. — Date: April 22, 2016

Local Government Sponsor — Date: 4-26-16

Albert Shelby — State Program Delivery Engineer — Date: 5-23-16

GDOT Project Manager — Date: 4/22/16

* Recommendation on file

Recommendation for approval:

* Eric Duff/KLP — State Environmental Administrator — Date: 5-25-2016

* Christopher Raymond/KLP — FOR State Traffic Engineer — Date: 6-3-2016

☒ MPO Area: This project is consistent with the MPO adopted Regional Transportation Plan (RTP)/Long Range Transportation Plan (LRTP).

☐ Rural Area: This project is consistent with the goals outlined in the Statewide Transportation Plan (SWTP) and/or is included in the State Transportation Improvement Program (STIP).

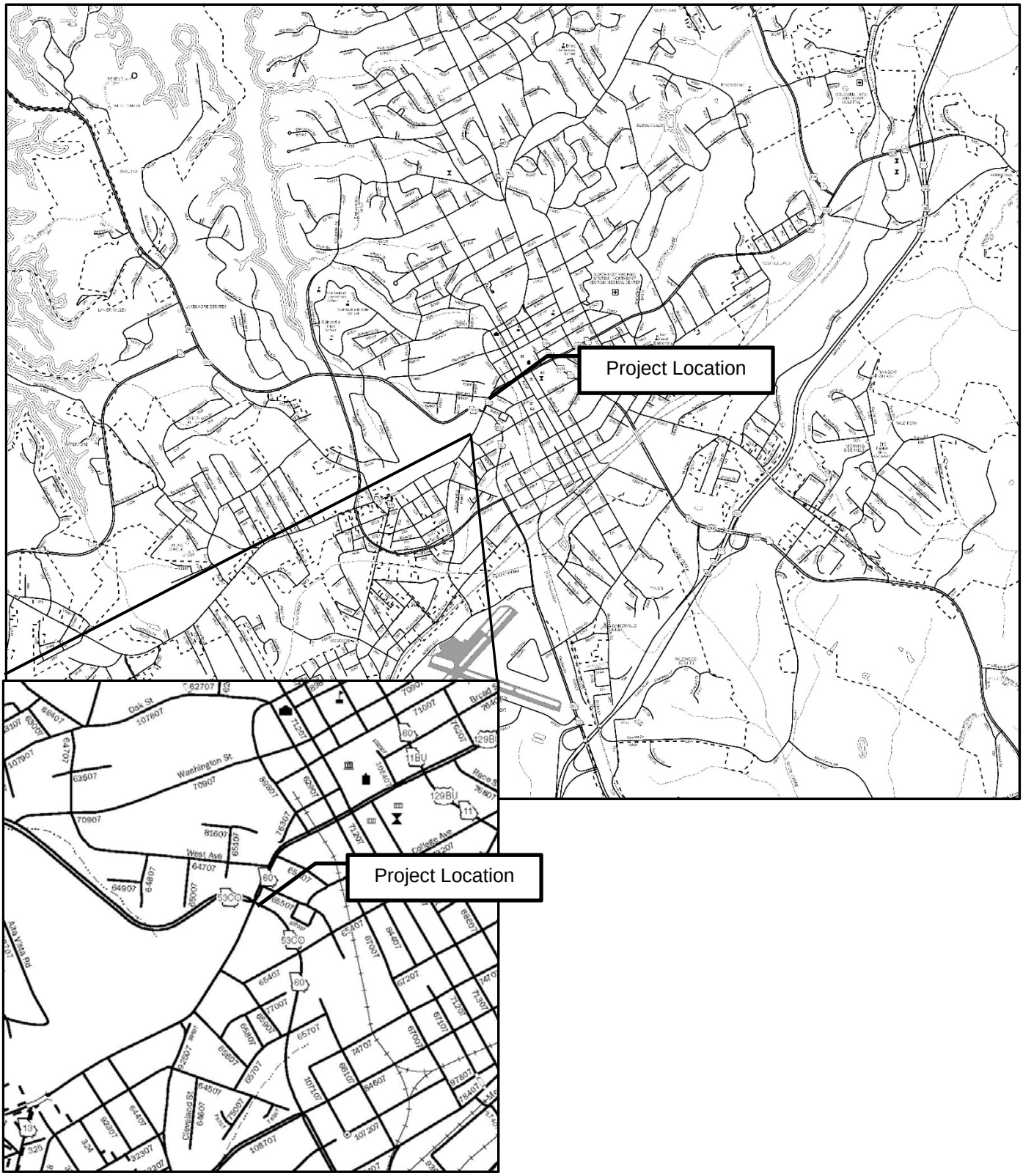
State Transportation Planning Administrator — Date: 6-1-16

Approval:

Concur: GDOT Director of Engineering — Date: 9/21/2016

Approve: Margaret B. Pickle — GDOT Chief Engineer — Date: 9/21/16

PROJECT LOCATION



PLANNING & BACKGROUND DATA

Project Justification Statement: Southeastern Engineering, Inc. (SEI) prepared the Project Justification Statement. The proposed project would address a congested intersection in the City of Gainesville, Hall County, Georgia. It is an intersection of two major state routes and three of the approaches lack dedicated right turn lanes. The project will enhance the efficiency of vehicular movements by adding right turn lanes on the three approaches that do not currently have right turn lanes and extending the existing left turn lanes on John W.Morrow Jr. Pkwy.

Existing conditions: The project intersection is located in the City of Gainesville in Hall County, Georgia. Jesse Jewell Pkwy is an Urban Principal Arterial with a posted speed limit of 35 mph. The northbound and southbound approaches of Jesse Jewell Pkwy have one left turn lane, two through lanes, and curb and gutter and sidewalk on both sides of the roadway. John W. Morrow Jr. Pkwy/Queen City Pkwy is an Urban Principal Arterial with a posted speed limit of 35 mph. The westbound approach of Queen City Pkwy has two left turn lanes, two through lanes, and curb and gutter and sidewalk on both sides of the roadway. The eastbound approach of John W. Morrow Pkwy has two left turn lanes, two through lanes, one right turn lane, and no curb and gutter or sidewalk. The eastbound approach is the only approach that currently has a dedicated right turn lane.

Other projects in the area:
GH112 – Jesse Jewell Pkwy Widen to 6 lanes from John Morrow to Academy St (PI Not Assigned, Long-Range)
3 GDOT maintenance projects including: M005504, M005493, & M005512

MPO: Gainesville - Hall MPO **TIP #:** GH-069

TIA Regional Commission: N/A

Congressional District(s): 9

Federal Oversight: ☒Exempt ☐State Funded ☐Other

Projected Traffic: ADT 24 HR T: 5.1%
Current Year (2016): 33,145 Open Year (2019): 33,646 Design Year (2039): 37,173
Traffic Projections Performed by: Southeastern Engineering, Inc.

Functional Classification (Mainline): Urban Principal Arterial is functional classification of all four legs of the intersection.

Complete Streets - Bicycle, Pedestrian, and/or Transit Standards Warrants:
Warrants met: ☐None ☐Bicycle ☒Pedestrian ☐Transit

Pavement Evaluation and Recommendations
Preliminary Pavement Evaluation Summary Report Required? ☒No ☐Yes
Preliminary Pavement Type Selection Report Required? ☒No ☐Yes
Feasible Pavement Alternatives: ☒HMA ☐PCC ☐HMA & PCC

DESIGN AND STRUCTURAL

Description of Proposed Project: Roadway intersection improvement at Jesse Jewell Parkway/Browns Bridge Rd/SR 369/SR 60 and John W. Morrow Jr. Parkway/Queen City Pkwy/SR 53 Conn/SR 60. Improvements would include the addition of right turn lanes on three approaches: northbound and southbound Jesse Jewell Pkwy and westbound Queen City Pkwy**.** Realignment of John Morrow Pkwy and Queen City Pkwy would be required to widen to the South to avoid prospective historical property at the NE Corner of Jesse Jewell Pkwy and Queen City Pkwy. Access to the two properties on the west side of Jesse Jewell Pkwy between John Morrow Pkwy and West Ave would be reduced from 3 points of entry

to 2 along Jesse Jewell Pkwy. The project would also extend the existing left turn lanes on John W. Morrow Jr. Pkwy for additional left turn storage.

Major Structures: N/A

Mainline Design Features:

Northbound and Southbound: Jesse Jewell Parkway/SR 369/SR 60 – Urban Principal Arterial

Feature	Existing	Standard*	Proposed
Typical Section			
- **Number of Lanes**	**4**	**4**	**4**
- **Lane Width(s)**	**11-12' Thru, 12' Auxillary**	**11-12'**	**11'-6" travel lanes & 12' to 12'-6" Auxillary lanes**
- **Median Width & Type**	**12' Flush South, North-2.5' Single Curb Median**	**14' Flush, 20'-Raised**	**12' Flush South, 2.5' Single Curb Median North**
- **Outside Shoulder or Border Area Width**	**10.5'**	**10-16'**	**12'-6"**
- **Outside Shoulder Slope**	**2%**	**2%**	**2%**
- **Inside Shoulder Width**	**N/A**	**N/A**	**N/A**
- **Sidewalks**	**5' @ B/C**	**5'**	**6'**
- **Auxiliary Lanes**	**1 LT**	**As Warranted**	**2: 1 LT 1 RT**
- **Bike Lanes**	**None**	**4' if provided**	**None**
Posted Speed	**35 MPH**		**35 MPH**
Design Speed	**35 MPH**	**45 MPH**	**35 MPH**
Min Horizontal Curve Radius	**N/A**	**711'**	**371'**
Maximum Superelevation Rate	**N/A**	**4%**	**4%**
Maximum Grade	**Unknown**	**8%**	**No Change**
Access Control	**None**	**None**	**Reduce driveways from 2 to 1 for two properties**
Design Vehicle	**N/A**	**WB-62**	**WB-62**
Pavement Type	**Asphalt**	**Asphalt**	**Asphalt**

*According to current GDOT design policy if applicable

Eastbound: John W Morrow Jr Parkway/SR 53 Conn/SR 60 - Urban Principal Arterial

Feature	Existing	Standard*	Proposed
Typical Section			
- **Number of Lanes**	**4**	**4**	**4**
- **Lane Width(s)**	**11-12'**	**11-12'**	**11.5' Thru & LT, 11' RT**
- **Median Width & Type**	**8' Concrete, Curb**	**14' Flush, 20'-Raised**	**8' Concrete, Curb**
- **Outside Shoulder or Border Area Width**	**6'**	**10-16'**	**10'**
- **Outside Shoulder Slope**	**4%**	**2%**	**2%**
- **Inside Shoulder Width**	**N/A**	**N/A**	**N/A**
- **Sidewalks**	**None**	**None**	**None**
- **Auxiliary Lanes**	**2 LT, 1 RT**	**As Warranted**	**2 LT, 1 RT**

- **Bike Lanes**	**None**	**4' if provided**	**None**
Posted Speed	**35 MPH**		**35 MPH**
Design Speed	**35 MPH**	**45 MPH**	**35 MPH**
Min Horizontal Curve Radius	**390'**	**711'**	**371'**
Maximum Superelevation Rate	**Unknown**	**4%**	**4%**
Maximum Grade	**Unknown**	**8%**	**8%**
Access Control	**None**	**None**	**None**
Design Vehicle	**WB-62**	**WB-62**	**WB-62**
Pavement Type	**Asphalt**	**Asphalt**	**Asphalt**

*According to current GDOT design policy if applicable

Westbound: Queen City Parkway/SR 53 Conn/SR 60 – Urban Principal Arterial

Feature	Existing	Standard*	Proposed
Typical Section			
- **Number of Lanes**	**4**	**4**	**4**
- **Lane Width(s)**	**11-12'**	**11-12'**	**11'**
- **Median Width & Type**	**14' Flush, None**	**14' Flush, 20'-Raised**	**14' Flush, None**
- **Outside Shoulder or Border Area Width**	**10'**	**10-16'**	**12'-6"**
- **Outside Shoulder Slope**	**2%**	**2%**	**2%**
- **Inside Shoulder Width**	**N/A**	**N/A**	**N/A**
- **Sidewalks**	**5'**	**5'**	**6'**
- **Auxiliary Lanes**	**2 LT**	**As Warranted**	**2 LT, 1 RT**
- **Bike Lanes**	**None**	**4' if provided**	**None**
Posted Speed	**35 MPH**		**35 MPH**
Design Speed	**35 MPH**	**45 MPH**	**35 MPH**
Min Horizontal Curve Radius	**680'**	**711'**	**371'**
Maximum Superelevation Rate	**Unknown**	**4%**	**4%**
Maximum Grade	**Unknown**	**8%**	**8%**
Access Control	**None**	**None**	**None**
Design Vehicle	**WB-62**	**WB-62**	**WB-62**
Pavement Type	**Asphalt**	**Asphalt**	**Asphalt**

*According to current GDOT design policy if applicable

Major Interchanges/Intersections: Jesse Jewell Pkwy/SR 369/SR 60 @ John W. Morrow Pkwy/Queen City Pkwy/SR 53 Conn/ SR 60

Lighting required: ☐ No ☒ Yes

Transportation Management Plan [TMP] Required: ☐ No ☒ Yes
If Yes: Project classified as: ☒ Non-Significant ☐ Significant
TMP Components Anticipated: ☒ TTC ☐ TO ☐ PI

Will Context Sensitive Solutions procedures be utilized? ☐ No ☒ Yes
Recommended alternative realigns the intersection to south to avoid impacting the potentially eligible cultural resource on the northeast corner. If this alternative is selected, no further CSS procedures will be needed.

Design Exceptions to FHWA/AASHTO controlling criteria anticipated:

- None Anticipated

Design Variances to GDOT Standard Criteria anticipated:

- Median widths and type to match existing rather than functional classification
- Horizontal curve radius

UTILITY AND PROPERTY

Railroad Involvement: None

Utility Involvements: To be determined

SUE Required: ☐ No ☒Yes

Public Interest Determination Policy and Procedure recommended? ☒ No ☐ Yes

Right-of-Way: Existing width: 70-80 ft. Proposed width: 85-95 ft.
Required Right-of-Way anticipated: ☐ No ☒ Yes ☐ Undetermined
Easements anticipated: ☐ None ☒ Temporary ☐ Permanent ☐ Utility ☐ Other

Anticipated total number of impacted parcels: 7
Displacements anticipated: Businesses: 0
Residences: 0
Other: 0
Total Displacements: 0

ENVIRONMENTAL AND PERMITS

Anticipated Environmental Document:
GEPA: ☐ **NEPA:** ☒ CE ☐ PCE

MS4 Compliance – Is the project located in an MS4 area? ☐ No ☒ Yes

Environmental Permits, Variances, Commitments, and Coordination anticipated:

Air Quality:
Is the project located in a PM 2.5 Non-attainment area? ☐ No ☒ Yes
Is the project located in an Ozone Non-attainment area? ☒ No ☐ Yes
Carbon Monoxide hotspot analysis: ☐ Required ☒ Not Required ☐ TBD

NEPA/GEPA Comments & Information: The project is expected to qualify for a CE level NEPA document. One corner of the project contains a residence that is likely eligible of listing on the NRHP. Avoidance of this property is anticipated. No ecological resources were identified in the project area. The project is expected to qualify for a noise screening assessment as a Type III project. The proposed project is not anticipated to be a project of air quality concern.

COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

Project Meetings:
Initial Concept Meeting: TBD – Anticipated March 2016
Concept Meeting: TBD

Project Activity	Party Responsible for Performing Task(s)
Concept Development	Southeastern Engineering, Inc.
Design	Southeastern Engineering, Inc.
Right-of-Way Acquisition	GDOT
Utility Coordination (Preconstruction)	GDOT
Utility Relocation (Construction)	Utility Companies

Letting to Contract	GDOT
Construction Supervision	GDOT
Providing Material Pits	GDOT
Providing Detours	N/A
Environmental Studies, Documents, & Permits	Southeastern Engineering, Inc.
Environmental Mitigation	N/A
Construction Inspection & Materials Testing	GDOT

Other coordination to date:
Kickoff meeting held January 20, 2016

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
Funded By	LOC	M400S	x	M400S	N/A	
$ Amount	$216,000	$634,000	x	$1,502,327	$0	$2,136,327
Date of Estimate	x	5/11/2016	x	8/18/16	2/29/2016	

*CST Cost includes: Construction, Engineering and Inspection, Contingencies and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Preferred Alternative: Improvements would include the addition of right turn lanes on three approaches: northbound and southbound Jesse Jewell Pkwy and westbound Queen City Pkwy**.** Realignment of John W. Morrow Jr. Pkwy and Queen City Pkwy will be required to widen to the South to avoid prospective historical property at the NE Corner of Jesse Jewell Pkwy and Queen City Pkwy. The existing left turn lanes on John W. Morrow Jr. Pkwy would be extended to provide additional storage for left turning vehicles. Access to the two properties on the west side of Jesse Jewell Pkwy between John W. Morrow Jr. Pkwy and West Ave would be reduced from 3 points of entry to 2 along Jesse Jewell Pkwy.			
Estimated Property Impacts:	**7**	**Estimated Total Cost:**	**$1,502,327**
Estimated ROW Cost:	**$634,000**	**Estimated CST Time:**	**180 days**
Rationale: No impacts to eligible historic property at the NE corner of Jesse Jewell Pkwy & Queen City Pkwy			

This design will not preclude future improvements.

No-Build Alternative: The no-build alternative would not construct any additional right turn lanes or change the intersection in any way.			
Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$0**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**$0**
Rationale: The no-build alternative would leave the intersection operations as is and would not reduce or eliminate the ongoing intersection congestion.			

This design will not preclude future improvements.

Alternative 1: Improvements would include the addition of right turn lanes on three approaches: northbound and southbound Jesse Jewell Pkwy and westbound Queen City Pkwy**.** Widening of John W. Morrow Jr. Pkwy and Queen City Pkwy would be to the north. Access to the two properties on the west side of Jesse Jewell Pkwy between John W. Morrow Jr. Pkwy and West Ave would be reduced from 3 points of entry to 2 along Jesse Jewell Pkwy.			
Estimated Property Impacts:	**8**	**Estimated Total Cost:**	**$1,002,000**
Estimated ROW Cost:	**$578,513**	**Estimated CST Time:**	**180 days**
Rationale: Not recommended due to potential adverse impacts to eligible historic property at the NE corner of Jesse Jewell Pkwy & Queen City Pkwy.			

This design will not preclude future improvements.

Note: A roundabout was considered for this intersection and eliminated as infeasible due to ROW impacts, cultural resource impacts, and poor levels of service due to the high percentage of left-turning vehicles. Additionally, this project's intent is to add right turn lanes. A roundabout is not an optimal solution for addressing the need for right turn lanes, as heavy right turn volumes at roundabouts would be served with bypass lanes, exacerbating the ROW and cultural resource impacts.

Comments/Additional Information: None

LIST OF ATTACHMENTS/SUPPORTING DATA

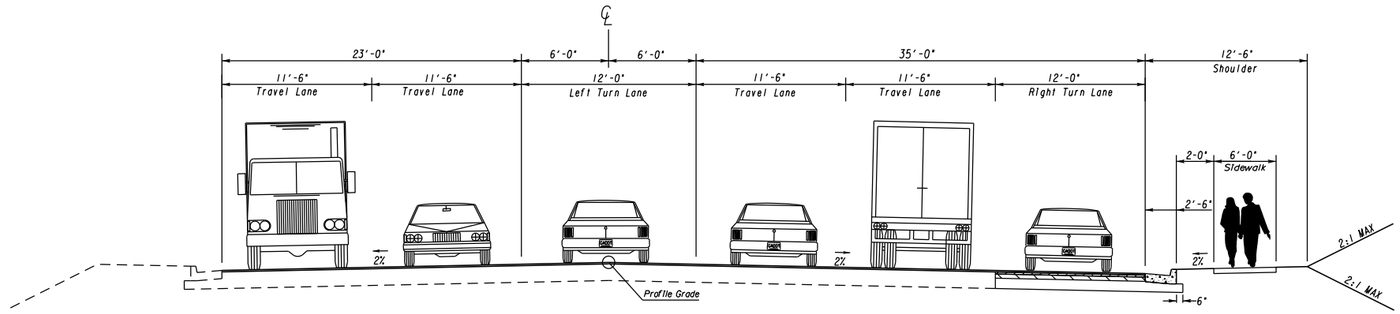
1. Concept Layout
2. Typical sections
3. Construction Cost Estimate
4. Crash summaries
5. Traffic Operation Analysis
6. Concept Team Meeting Minutes
7. Draft Concept Report Comment Responses

Attachment 1
Concept Layout

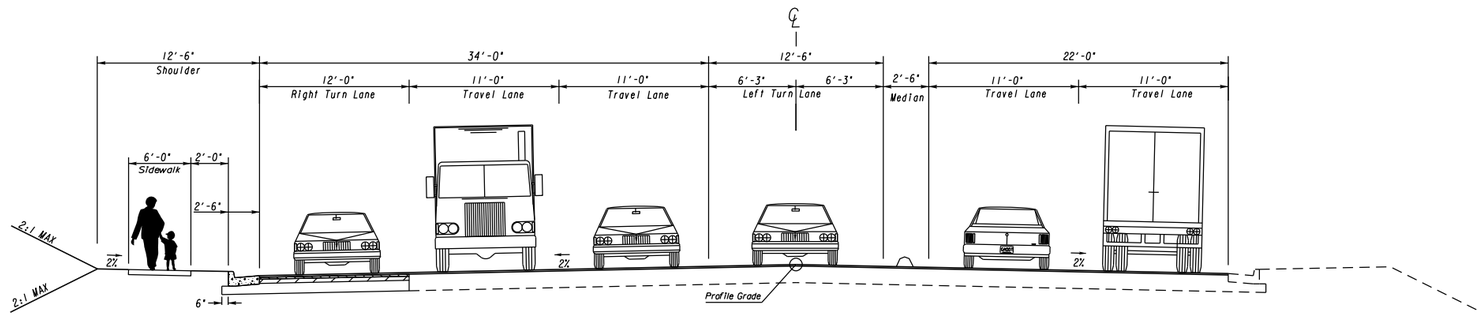
LEGEND

SIDEWALK	ESA BOUNDARY	PROPERTY LINE
GRASS STRIP	PROPOSED EDGE OF PAVEMENT	MEDIAN
DIRECTIONAL ARROW	LANE STRIPING	CL STRIPING

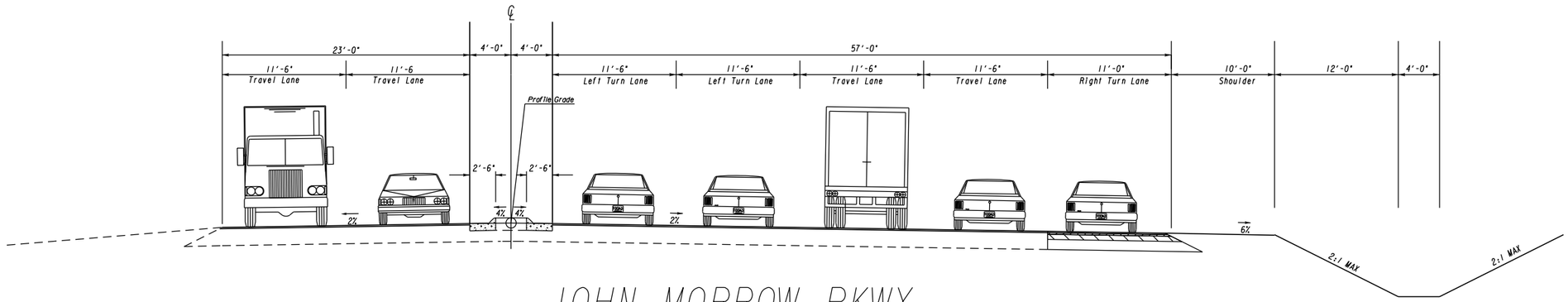
Attachment 2
Typical Sections



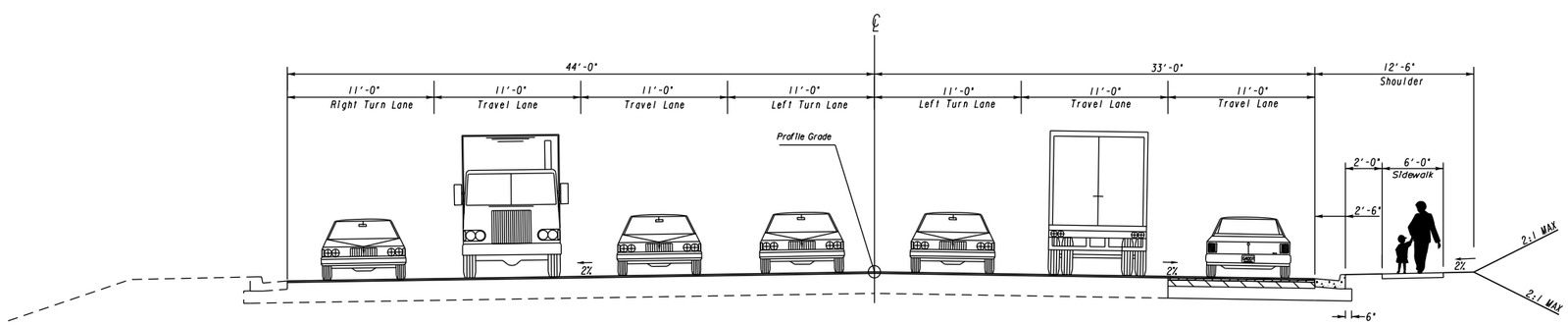
JESSE JEWELL PKWY SOUTH



JESSE JEWELL PKWY NORTH



JOHN MORROW PKWY



QUEEN CITY PKWY

Attachment 3
Construction Cost Estimate

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No. **0013322**

OFFICE Program Delivery

PROJECT DESCRIPTION

SR 53 CONN/SR 60 @ SR 60/SR 369

DATE September 6, 2016

From: Albert V. Shelby, III, State Program Delivery Engineer

To: Lisa L. Myers, State Project Review Engineer
via Email Mailbox: **CostEstimatesandUpdates@dot.ga.gov**

Subject: REVISIONS TO PROGRAMMED COSTS

MGMT LET DATE 9/15/2018

PROJECT MANAGER Lindsay Atnip

MGMT ROW DATE 9/17/2017

PROGRAMMED COSTS (TPro W/OUT INFLATION)

LAST ESTIMATE UPDAT

CONSTRUCTION	$	1,002,000.00	DATE	
RIGHT OF WAY	$	578,513.00	DATE	
UTILITIES	$	216,000.00	DATE	

REVISED COST ESTIMATES

CONSTRUCTION	$	1,502,326.64
RIGHT OF WAY	$	634,000.00
UTILITIES	$	

*Cost Contains **10** % Contingency

REASONS FOR COST INCREASE AND CONTINGENCY JUSTIFICATION:

This project is a reconstruction/rehabilitation project that is in the concept development stage. Per the "Risk Based Cost Estimation" memo, projects of this type at this stage have a contingency of 5%-10%.

CONTINGENCY SUMMARY

A. CONSTRUCTION COST ESTIMATE:	$ 1,278,597.22	Base Estimate From CES		
B. ENGINEERING AND INSPECTION (E & I):	$ 63,929.86	Base Estimate (A) x	5	%
C. CONTINGENCY:	$ 134,252.71	Base Estimate (A) + E & I (B) x See % Table in "Risk Based Cost Estimation" Memo	10	%
D. TOTAL LIQUID AC ADJUSTMENT:	$ 25,546.85	Total From Liquid AC Spreadsheet		
E. CONSTRUCTION TOTAL:	$ 1,502,326.64	(A + B + C + D = E)		

REIMBURSABLE UTILTY COSTS

UTILITY OWNER	REIMBURSABLE COST
TOTAL	$ -

ATTACHMENTS: (File Copy in the Project Cost Estimate Folder)

Detailed Cost Estimate Printout
Liquid AC Adjustment Spreadsheet

PI 0013322 Hall County COST ESTIMATE - 8-11-2016

ROADWAY

Item Number	Item Description	Quantity	Unit	Item Cost	Total Cost
150-1000	TRAFFIC CONTROL	1	LS	$ 100,000.00	$ 100,000.00
210-0100	GRADING COMPLETE	1	LS	$ 150,000.00	$ 250,000.00
310-5120	GR AGGR BASE CRS, 12 INCH, INCL MATL	2630	SY	$ 20.00	$ 52,600.00
402-3130	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, TYPE II, GP 2 ONLY, INCL BITUM MATL & H LIME	1504	TN	$ 80.00	$ 120,320.00
402-3121	RECYCLED ASPH CONC 25MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	580	TN	$ 80.00	$ 46,400.00
402-3190	RECYCLED ASPH CONC 19MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	290	TN	$ 80.00	$ 23,200.00
413-1000	BITUM TACK COAT	850	GL	$ 4.00	$ 3,400.00
432-5010	MILL ASPH CONC PVMT, VARIABLE DEPTH	15780	SY	$ 5.00	$ 78,900.00
441-0018	DRIVEWAY CONCRETE, 8 IN TK	50	SY	$ 45.00	$ 2,250.00
441-0748	CONCRETE MEDIAN, 6 IN	630	SY	$ 55.00	$ 34,650.00
441-0104	CONC SIDEWALK, 4 IN	1070	SY	$ 50.00	$ 53,500.00
441-6222	CONC CURB & GUTTER, 8 IN X 30 IN, TP 2	2000	LF	$ 23.00	$ 46,000.00
610-0714	REM CONC MEDIAN PAVING	365	SY	$ 33.00	$ 12,045.00
402-0005	REM CONC MEDIAN PAVING	1.0	LS	$ 165,988.22	$ 165,988.22
				Total	$ 989,253.22

EROSION

Item Number	Item Description	Quantity	Unit	Item Cost	Total Cost
163-0232	TEMPORARY GRASSING	5	AC	$ 500.00	$ 2,500.00
163-0240	MULCH	10	TN	$ 250.00	$ 2,500.00
163-0300	CONSTRUCTION EXIT	1	EA	$ 1,500.00	$ 1,500.00
163-0529	CONSTRUCT AND REMOVE TEMPORARY EROSION SEDIMENT BARRIER OR BALED STRAW CHECK DAM	50	EA	$ 5.00	$ 250.00
165-0010	MAINTENANCE OF TEMP SILT FENCE, TP A	3700	LF	$ 1.00	$ 3,700.00
165-0101	MAINTENANCE OF CONSTRUCTION EXIT	1	EA	$ 500.00	$ 500.00
171-0010	TEMPORARY SILT FENCE, TYPE A	3700	LF	$ 3.00	$ 11,100.00
603-2181	STN DUMPED RIP RAP, TP 3, 18 IN	100	SY	$ 60.00	$ 6,000.00
603-7000	PLASTIC FILTER FABRIC	100	SY	$ 5.00	$ 500.00
700-6910	PERMANENT GRASSING	2	AC	$ 1,000.00	$ 2,000.00
700-7000	AGRICULTURAL LIME	2	TN	$ 100.00	$ 200.00
700-8000	FERTILIZER MIXED GRADE	2	TN	$ 600.00	$ 1,200.00
700-8100	FERTILIZER NITROGEN CONTENT	400	LB	$ 10.00	$ 4,000.00
700-9300	SOD	2200	SY	$ 5.00	$ 11,000.00
				Total	$ 46,950.00

DRAINAGE

Item Number	Item Description	Quantity	Unit	Item Cost	Total Cost
550-1180	STORM DRAIN PIPE, 18 IN, H 1-10	50	LF	$ 43.00	$ 2,150.00
550-1240	STORM DRAIN PIPE, 24 IN, H 1-10	50	LF	$ 55.00	$ 2,750.00
550-4218	FLARED END SECTION 18 IN, STORM DRAIN	2	EA	$ 650.00	$ 1,300.00
668-1100	CATCH BASIN, GP 1	1	EA	$ 2,500.00	$ 2,500.00
668-2100	DROP INLET, GP 1	1	EA	$ 2,300.00	$ 2,300.00
668-4300	STORM SEWER MANHOLE, TP 1	1	EA	$ 2,300.00	$ 2,300.00
				Total	$ 13,300.00

SIGNING AND MARKING/TRAFFIC SIGNAL

Item Number	Item Description	Quantity	Unit	Item Cost	Total Cost
636-1033	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	100	SF	$ 20.00	$ 2,000.00
636-2090	GALV STEEL POSTS, TP 9	100	LF	$ 15.00	$ 1,500.00
647-1000	TRAFFIC SIGNAL INSTALLATION NO - 1	1	LS	$ 200,000.00	$ 200,000.00
653-0120	THERMOPLASTIC PAVEMENT MARKING, ARROW, TP 2	22	EA	$ 100.00	$ 2,200.00
653-1501	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	5887	LF	$ 1.00	$ 5,887.00
653-1502	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	4395	LF	$ 1.00	$ 4,395.00
653-1704	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	440	LF	$ 10.00	$ 4,400.00
653-1706	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, YELLOW	320	LF	$ 10.00	$ 3,200.00
653-1804	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	1756	LF	$ 2.00	$ 3,512.00
653-3501	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	4000	GLF	$ 0.50	$ 2,000.00
				Total	$ 229,094.00

Sub-Total	**$ 1,278,597.22**
Eng & insp	**$ 63,929.86**
Contingency 10%	**$ 134,252.71**
GRAND TOTAL	**$ 1,476,779.79**

PROJ. NO.		CALL NO.	0/00/2016
P.I. NO.	0013322		
DATE	8/15/2016		

INDEX (TYPE)	**DATE**	**INDEX**
REG. UNLEADED	Aug-16	$ 1.989
DIESEL		$ 2.299
LIQUID AC		$ 348.00

Link to AC Index:
http://www.dot.ga.gov/PS/Materials/AsphaltFuelIndex

LIQUID AC ADJUSTMENTS

PA=[((APM-APL)/APL)]xTMTxAPL

Asphalt

Price Adjustment (PA)			**24784.56**	**$**	**24,784.56**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$ 556.80		
Monthly Asphalt Cement Price month project let (APL)			$ 348.00		
Total Monthly Tonnage of asphalt cement (TMT)			118.7		

ASPHALT	**Tons**	**%AC**	**AC ton**
Leveling		5.0%	0
12.5 OGFC		5.0%	0
12.5 mm	1504	5.0%	75.2
9.5 mm SP		5.0%	0
25 mm SP	580	5.0%	29
19 mm SP	290	5.0%	14.5
	2374		**118.7**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$ 762.29**	**$**	**762.29**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$ 556.80		
Monthly Asphalt Cement Price month project let (APL)			$ 348.00		
Total Monthly Tonnage of asphalt cement (TMT)			3.650835784		

Bitum Tack Gals	gals/ton	tons
850	232.8234	3.65083578

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)			**0**	**$**	-
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$ 556.80		
Monthly Asphalt Cement Price month project let (APL)			$ 348.00		
Total Monthly Tonnage of asphalt cement (TMT)			0		

Bitum Tack	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf.Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0
					0

TOTAL LIQUID AC ADJUSTMENT	**$**	**25,546.85**

Department of Transportation

State of Georgia

Interdepartmental Correspondence

FILE	R/W Cost Estimate Update	**OFFICE**	Atlanta
		DATE	May 11, 2016
FROM	Troy Byers, Right of Way Administrator LaShone Alexander, Right of Way Cost Estimator		
TO	Khek Wui Heng, Project Manager		

SUBJECT **Preliminary Right of Way Cost Estimate**
Project: 0013322 Hall
P.I. No.: 0013322
Description: John Morrow/Queen City Pkwy Realignment

As per your request, attached is a copy of the approved Preliminary Right of Way Cost Estimates on the above referenced projects.

If you have any questions, please contact LaShone Alexander at One Georgia Center 600 West Parkway Street, NW Atlanta, GA 30308, Right of Way Office at (478) 553-1569 or (478) 232-4045.

`

PC:LA
Attachments
c: File

GEORGIA DEPARTMENT OF TRANSPORTATION
PRELIMINARY ROW COST ESTIMATE SUMMARY

Date: 5/11/2016 Project: 0013322

Revised: County: Hall

PI: 0013322

Description: John Morrow/Queen City Pkwy Realignment

Project Termini: John Morrow/Queen City Pkwy Realignment

Existing ROW: Varies

Parcels: 7 Required ROW: Varies

Land and Improvements		$427,500.00
Proximity Damage	*$0.00*	
Consequential Damage	*$0.00*	
Cost to Cures	*$0.00*	
Trade Fixtures	*$0.00*	
Improvements	*$85,000.00*	
Valuation Services		$43,750.00
Legal Services		$79,725.00
Relocation		$14,000.00
Demolition		$0.00
Administrative		$69,000.00
TOTAL ESTIMATED COSTS		$633,975.00
TOTAL ESTIMATED COSTS (ROUNDED)		***$634,000.00***

Preparation Credits	Hours	Signature

Prepared By: Lashone Alexander CG#: 286999 05/11/2016 (DATE)

Approved By: Lashone Alexander CG#: 286999 05/11/2016 (DATE)

NOTE: No Market Appreciation is included in this Preliminary Cost Estimate

Attachment 4
Crash Summaries

Crash History Analysis

Crash reports were obtained from the GDOT GEARS crash database for 2012, 2013 and 2014. The intersection crash data was also investigated to determine whether a particular incident type (such as angle or rear-end crashes) was the most prevalent. Identifying the predominant type of crash that occurs at an intersection can help identify potential safety solutions. The types of crashes at the Jesse Jewell Parkway at John Morrow Parkway/Queen City Parkway intersection are summarized in Table 1.

As shown in Table 1, rear end and angle crashes are the predominant vehicle crash type at the study intersection. Rear end collisions are a typical occurrence on congested facilities or at signalized intersections. Busy intersections that have horizontal or vertical curves on the approach legs can also experience higher crash rates due to the shortened sight distance of the roadway geometry. The approach directions of the rear-end crashes (with Jesse Jewell Parkway defined as the north/south facility) are shown in Table 2.

Table 1
Jesse Jewell Parkway at John Morrow Parkway/Queen City Parkway Crash Distribution (2012-2014)

Crash Type (Intersection)	Total	Overall Percentage
Angle	6	15%
Head On	1	2%
Rear End	25	61%
Sideswipe - Same Direction	6	15%
Sideswipe - Opposite Direction	1	2%
Not A Collision With A Motor Vehicle	2	5%
Total	**41**	**100%**

Table 2 Jesse Jewell Parkway at John Morrow Parkway/Queen City Parkway Rear-End Crash Distribution By Approach (2012-2014)		
Crash Approach	**Total**	**Overall Percentage**
Northbound Jesse Jewell Parkway	6	24%
Southbound Jesse Jewell Parkway	2	8%
Eastbound John Morrow Parkway	12	48%
Westbound Queen City Parkway	5	20%
Total	**41**	**100%**

The eastbound John Morrow Parkway approach, which does include a horizontal curve, has the highest crash experience. However, other factors could also cause this increase in crash experience, including the intersection signal timing. This crash analysis information should be incorporated in considering the future intersection design.

If further crash experience at this intersection is studied, it should be noted that the coding of the crash data at this intersection is inconsistent on which facilities are the north/south and east/west legs of the intersection. The crash analysis shown in Tables 1 and 2 was performed by a detailed review of the crash report diagrams between 2012 and 2014 to assign a consistent reference: Jesse Jewell Parkway as north/south and John Morrow Parkway/Queen City Parkway as east/west. Future crash summary analysis for other years is anticipated to need a similar level of review in order to determine the directionality of crash experience.

Attachment 5
Traffic Operation Analysis

Traffic Operation Analysis

FOR

SR 53 CONN/SR 60 @ SR 60/SR 369

Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy

Intersection Improvements

PI No. 0013322

Gainesville, Hall County, Georgia

Prepared For:

City of Gainesville

300 Henry Ward Way

Gainesville, GA 30501

Prepared by:

SOUTHEASTERN ENGINEERING

CIVIL & TRANSPORTATION ENGINEERING, LAND SURVEYING AND PLANNING

2470 Sandy Plains Rd

Marietta, Georgia 30066

July 7, 2016

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Appendix G	Build Synchro Outputs
Appendix H	Build SimTraffic Outputs

EXECUTIVE SUMMARY

Southeastern Engineering Inc. (SEI) has conducted a traffic study to determine the impacts of an intersection improvement project in the City of Gainesville, Georgia. The proposed project is for roadway intersection improvements at Jesse Jewell Parkway/Browns Bridge Road/SR 369/SR 60 and John W. Morrow Jr. Parkway/Queen City Parkway/SR 53 Conn/SR 60. Improvements will include the addition of right turn lanes on three approaches: northbound and southbound Jesse Jewell Parkway and westbound Queen City Parkway.

Capacity analyses and level of service evaluations of the intersections in the project area were conducted for the existing condition, future condition without the project (No Build), and future condition with the proposed project (Build). After implementation of the project, the study intersection is expected to operate acceptably in the Design Year (2039) conditions. In the Design Year + 2 conditions, LOS operations during the AM and PM peak periods are expected to reach LOS E. This LOS is not atypical for urban areas on principal arterial routes.

The proposed concept plan will have sufficient storage for average peak hour queue lengths in all directions except the eastbound left, movement from John Morrow Parkway to northbound Jesse Jewell Parkway. Pulling the raised median curb back to extend the full storage should be considered on this approach.

The anticipated Design Year traffic 95th percentile queue lengths exceeded turn lane storage lengths in all directions except for the following two: the southbound left movement from Jesse Jewell Parkway to Queen City Parkway (which has a long storage distance) and the eastbound right turn movement from John Morrow Parkway to southbound Jesse Jewell Parkway (which has a relatively low traffic volume). Physical constraints in the area, such as adjacent driveways and gas storage tanks, may restrict further extension of storage lane lengths for other the other movements. However, as part of the Value Engineering process, extension of these lanes should be considered if they can be accommodated as part of the intersection design without unduly complicating the project.

INTRODUCTION

Background

Southeastern Engineering, Inc. (SEI) has provided traffic services as part of the Jesse Jewell Parkway at John Morrow Parkway/Queen City Parkway Intersection Improvements Congestion Mitigation and Air Quality (CMAQ) study (PI 0013322, also referenced as the Jesse Jewell at John Morrow study) in the City of Gainesville, Hall County, Georgia. The Jesse Jewell at John Morrow study area is shown in Figure 1 and the existing intersection aerial map is shown in Figure 2.

Figure 1: Area Map: Study Intersection

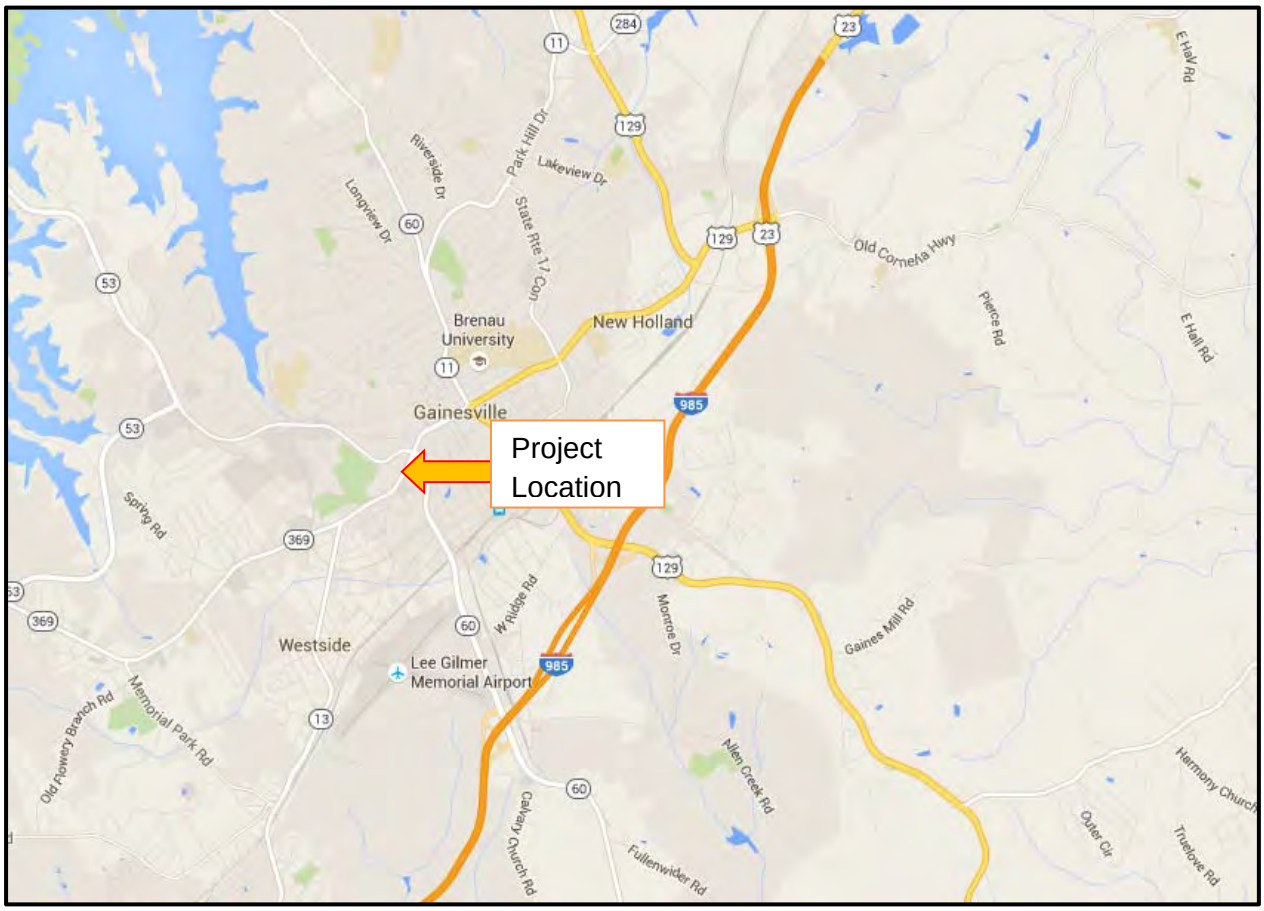


Figure 2: Study Intersection Aerial Map

SEI has performed peak hour traffic analysis for the existing year (2015) conditions, the Opening Year (2019) conditions and the Design Year (2039) No Build and Build conditions. At the request of the Georgia Department of Transportation (GDOT) Office of Planning, the Opening and Build plus two years (2021 and 2041) traffic volumes were calculated and a traffic analysis for these volume projections performed.

The traffic analysis for this project is intended to determine the needed capacity for deceleration lanes at the intersection. Jesse Jewell Parkway at John Morrow Parkway/Queen City Parkway is the intersection of two major state routes and three of the approaches lack dedicated right turn lanes. The project will enhance the efficiency of vehicular movements by adding right turn lanes on the three approaches that do not currently have right turn lanes.

Project Description

The proposed project is for roadway intersection improvements at Jesse Jewell Parkway/Browns Bridge Road/SR 369/SR 60 and John W. Morrow Jr. Parkway/Queen City Parkway/SR 53 Conn/SR 60. Improvements will include the addition of right turn

lanes on three approaches: northbound and southbound Jesse Jewell Parkway and westbound Queen City Parkway.

EXISTING CONDITIONS

The transportation facilities within the study area are described as follows:

Roadways

Jesse Jewell Parkway

Within the study area, Jesse Jewell Parkway is an Urban Principal Arterial with a posted speed limit of 35 miles per hour (mph). Jesse Jewell Parkway has curb and gutter and sidewalk on both sides of the roadway

John Morrow Parkway

John Morrow Parkway is functionally classified as an Urban Principal Arterial with a posted speed limit of 35 mph. This approach has no curb and gutter or sidewalk.

Queen City Parkway

Within the study area, Queen City Parkway is functionally classified as an Urban Principal Arterial with a posted speed limit of 35 mph. Queen City Parkway has curb and gutter and sidewalk on both sides of the roadway

Existing Intersection Geometry

The study intersection has the following existing roadway geometry:

- Northbound approach (Jesse Jewell Parkway): one exclusive left turn lane, one exclusive through lane and one shared through/right turn lane
- Southbound approach (Jesse Jewell Parkway): one exclusive left turn lane, one exclusive through lane and one shared through/right turn lane
- Eastbound approach (John Morrow Parkway): two exclusive left turn lanes, two exclusive through lanes, and one exclusive right turn lane
- Westbound approach (Queen City Parkway): two exclusive left turn lanes, one exclusive through lane and one shared through/right turn lane

These existing exclusive turn lanes have the following approximate storage lengths:

- Northbound approach (Jesse Jewell Parkway): one exclusive left turn lane - 110 feet
- Southbound approach (Jesse Jewell Parkway): one exclusive left turn lane - 435 feet
- Eastbound approach (John Morrow Parkway): two exclusive left turn lanes - 180 feet and one exclusive right turn lane - 175 feet
- Westbound approach (Queen City Parkway): two exclusive left turn lanes - 120 feet

Bicycle and Pedestrian Facilities

The roadways in this area are not part of a State Bike Route, nor are there bicycle facilities provided at this intersection. The existing sidewalks and crosswalks at the traffic signal and along Jesse Jewell Parkway and Queen City Parkway create the appropriate facility type for pedestrian traffic; however, the area is not considered to have high pedestrian activity. This assumption was confirmed by pedestrian counts taken for a December 2015 preliminary timing report performed for an SR 369 project, PI 0010565.

Mass Transit

The Gainesville Connection transit Routes 40 and 41 use this portion of Jesse Jewell Parkway but have one hour headways, so the study intersection is not considered to be on a high-intensity transit route.

Traffic Data Collection

In order to create the existing and future traffic flow diagrams, SEI used traffic volume and turning movement data collected for the December 2015 timing study performed for an SR 369 project, PI 0010565, supplemented by nearby GDOT permanent count stations. The following data was obtained for this project:

Data from December 2015 Timing Report

Turning movement counts were performed on Thursday, October 8, 2015 during the weekday AM, midday, and PM peak periods (7:00-9:00 AM, 11:00 AM-1:00 PM and 4:00-6:00 PM, respectively) at the following intersection:

1. SR 369/Jesse Jewell Parkway at SR 53/John Morrow Parkway/Queen City Parkway

The four consecutive 15-minute interval volumes, summed to produce the highest volume at each intersection, were then determined. These volumes make up the peak hour traffic volumes for the intersection counted.

The original peak hour traffic data sheets from the December 2015 study are included in Appendix A.

GDOT Historical Counts (GeoCOUNTS)

Historical traffic counts within the study area were obtained from the GDOT GeoCOUNTS website. The following Average Daily Traffic (ADT) information was also calculated for performing the balanced ADT projections, as shown in Table 1. The raw GDOT historical information was used with 2013 and 2014 GDOT factors (as appropriate) to adjust for the seasonal and axle corrections. The day of week factor was not used since a weekday count was desirable for this study.

The GDOT station count data, the GDOT adjustment factors and a summary calculation sheet are included in Appendix B.

Table 1 GDOT ADT Volume Data

Station #	Location	ADT (vpd)
1390196	Jesse Jewell Parkway north of John Morrow Parkway/Queen City Parkway (January 2014)	38,300
1390313	John Morrow Parkway west of Jesse Jewell Parkway (June 2013)	18,850
1390312	Queen City Parkway east of Jesse Jewell Parkway* (June 2013)	16,475

vpd = vehicles per day, * Used for validation with December 2015 timing study counts

GDOT historical data was used to calculate the T factors for each roadway, which are included on the traffic flow diagrams included in Appendix D. Because the traffic counted at Stations 1390313 and Station 1390312 were during the summer, additional GDOT historical stations were used as shown in Table 2.

Table 2 Additional GDOT Historical Stations Used for Truck Factor Calculations		
Station #	**Location**	**Classification Count Date**
1390194	Jesse Jewell Parkway south of John Morrow Parkway/Queen City Parkway	July 2014
1390192	Jesse Jewell Parkway south of John Morrow Parkway/Queen City Parkway (north of Pearl Nix Road)	Sept 2011
1390257	John Morrow Parkway west of Jesse Jewell Parkway (near Atlanta Highway)	Jan 2014

No additional classification information was available to the east on Queen City Parkway before the travel characteristics of the roadway changed. The data from the stations in Table 2 was used to adjust the truck percentages at Station 1390312 (from Table 1) for being taken during the summer months. The GDOT station data referenced in Table 2 and the truck percentage calculations for these adjustments are included in Appendix C.

Study Intersection Growth Trends

SEI determined historic traffic growth trends based on the past fifteen years of data provided at GDOT count stations (where available). Trend line graphs were prepared for five, ten and fifteen year trends.

SEI performed a trend analysis that conforms to specific GDOT Design Manual Guidance. Historical data from nearby GDOT count stations was analyzed from 1999 to 2014. SEI also determined the growth rate from the Gainesville-Hall Metropolitan Planning Organization (GHMPO) travel demand model for this study area. The growth rates on Jesse Jewell Parkway and on John Morrow Parkway/Queen City Parkway were found to be consistent as separate facilities in both approaches. Table 3 shows the analysis of historical annual average daily traffic (AADT) volumes recorded by GDOT count stations located in Hall County for Jesse Jewell Parkway, and Table 4 shows the results for John Morrow Parkway/Queen City Parkway.

Table 3 GDOT Historical Growth Rate: Jesse Jewell Parkway				
Station #	**Location**	**5-Year Growth Rate**	**10-Year Growth Rate**	**15-Year Growth Rate**
1390196	Jesse Jewell Parkway north of John Morrow Parkway/Queen City Parkway	-0.2%	-2.5%	-2.6%
1390194	Jesse Jewell Parkway south of John Morrow Parkway/Queen City Parkway	-0.7%	-1.5%	-4.5%
5-Year, 10-Year and 15-Year Averages		**-0.4%**	**-2.0%**	**-3.5%**
Weighted Average		**-1.9%**		

Table 4 Historical Growth Rate: John Morrow Parkway/Queen City Parkway				
Station #	**Location**	**5-Year Growth Rate**	**10-Year Growth Rate**	**15-Year Growth Rate**
1390313	John Morrow Pkwy west of Jesse Jewell Pkwy	1.3%	-0.7%	-1.1%
1390312	Queen City Pkwy east of Jesse Jewell Pkwy	3.2%	-8.9%	-5.5%
5-Year, 10-Year and 15-Year Averages		**2.3%**	**-4.8%**	**-3.3%**
Weighted Average		**-2.3%**		

As shown in the above tables, the historical growth rate for the traffic recorded at these GDOT count stations has been generally negative to flat. This traffic pattern is consistent with other urban areas during the recent recession. However, considering the five-year growth of John Morrow Parkway and Queen City Parkway, this east/west corridor has shown growth in recent years.

Table 5 shows the study area growth rates from the GHMPO travel demand growth rates between 2010 and 2040.

Table 5 Gainesville-Hall Travel Demand Model Growth Rate				
	2010 ADT (vpd)	**2040 ADT (vpd)**	**Annual Growth Rate**	**Facility Annual Growth Rate**
Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	35,880	43,580	0.65%	0.35%
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	23,890	24,320	0.06%	
John Morrow Pkwy west of Jesse Jewell Pkwy	15,770	25,730	1.65%	1.54%
Queen City Pkwy east of Jesse Jewell Pkwy	11,710	17,990	1.44%	

Given the stronger growth on the John Morrow Parkway/Queen City Parkway facility shown in Table 4 and Table 5 and the flat to negative growth on Jesse Jewell Parkway shown in Table 3 and Table 5, SEI used the following growth rates for traffic projections:

<u>John Morrow Parkway/Queen City Parkway</u>

- 2% growth between the Existing Year (2014, 2015) and Opening Year (2019) conditions
- 1.5% growth between the Opening Year (2019) and Design Year (2039) conditions

<u>Jesse Jewell Parkway</u>

- 0.5% growth between the Existing Year (2014, 2015) and Design Year 2039 conditions

K, D and T Factors

Peaking (K) and distribution (D) factors for each approach of the intersection and for the average for each facility are shown in Table 6.

Table 6 Study K and D Factors By Approach and Facility from Traffic Flow Diagrams						
Location	**K-Factor**			**D-Factor**		
	AM	Mid	PM	AM	Mid	PM
Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	0.08	0.08	0.08	0.54	0.52	0.52
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	0.07	0.09	0.08	0.50	0.51	0.51
Average for Jesse Jewell Pkwy	**0.07**	**0.08**	**0.08**	**0.52**	**0.52**	**0.52**
John Morrow Pkwy west of Jesse Jewell Pkwy	0.08	0.08	0.09	0.60	0.57	0.54
Queen City Pkwy east of Jesse Jewell Pkwy	0.08	0.08	0.08	0.52	0.56	0.52
Average for John Morrow Pkwy/Queen City Pkwy	**0.08**	**0.08**	**0.08**	**0.54**	**0.52**	**0.52**

The historical K and D factors are shown in Table 7 for comparison.

Table 7 Study K and D Factors By Approach and Facility from GDOT Historical Count Station						
Location	**K-Factor**			**D-Factor**		
	AM	Mid	PM	AM	Mid	PM
Jesse Jewell Parkway north of John Morrow Parkway/Queen City Parkway (Station 1390196)	**0.06**	**0.07**	**0.07**	**0.53**	**0.51**	**0.50**
John Morrow Parkway west of Jesse Jewell Parkway (Station 1390313)	0.06	0.07	0.08	0.55	0.52	0.56
Queen City Parkway east of Jesse Jewell Parkway (Station 1390312)	0.07	0.07	0.08	0.57	0.51	0.52
Average for John Morrow Pkwy/Queen City Pkwy	**0.06**	**0.07**	**0.08**	**0.56**	**0.51**	**0.54**

As shown in Table 7, the historical K and D factors are similar to the projected traffic flow diagrams. The traffic flow diagrams do have slightly higher peaking characteristics

during the AM and midday but are also based on actual turning movement data rather than on hourly tube data.

The T factors for the existing and future analysis are shown in Table 8 for the peak hour data and Table 9 for the ADT data. The additional GDOT historical traffic data and calculations to adjust for summer month counts used for the T factors are available in Appendix C.

Table 8 Study T Factors By Approach and Facility: Peak Hours

Location	AM			Mid			PM		
	T	SU	CU	T	SU	CU	T	SU	CU
Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	7.1%	5.7%	1.4%	4.8%	3.8%	1.0%	4.3%	3.4%	0.9%
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	5.1%	3.8%	1.3%	4.5%	3.8%	0.7%	3.3%	2.8%	0.5%
Average for Jesse Jewell Pkwy	**6.1%**	**4.7%**	**1.4%**	**4.6%**	**3.8%**	**0.8%**	**3.8%**	**3.1%**	**0.7%**
Average for John Morrow Pkwy/Queen City Pkwy	**6.9%**	**5.1%**	**1.8%**	**6.3%**	**4.3%**	**2.0%**	**5.0%**	**3.5%**	**1.5%**

T = Total Trucks, SU = single unit trucks, CU = combination unit trucks

Table 9 Study 24 HR T Factors By Approach and Facility: ADT

Location	24 T	SU	CU
Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	5.1%	3.7%	1.4%
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	4.4%	3.4%	1.0%
Average for Jesse Jewell Pkwy	**4.7%**	**3.5%**	**1.2%**
John Morrow Pkwy/Queen City Pkwy (Average)	**6.6%**	**4.3%**	**2.3%**

24 T = Total Daily Trucks, SU = single unit trucks, CU = combination unit trucks

Overall, the truck percentage on the John Morrow Parkway/Queen City Parkway facility is consistent. However, the northern leg of Jesse Jewell Parkway has a higher truck percentage than the southern leg, particularly during the AM peak period. In order to

reflect this in the analysis, the truck percentages were left disaggregated by approach on the traffic flow diagrams.

The following balanced flow diagrams were projected for the study intersection:

1. Existing Year (2014/ 2015) ADT Volumes (Figure 1)
2. Opening and Design Years (2019 and 2039) ADT Volumes: Build and No Build (Figure 2)
3. Opening and Design Plus Two Years (2021 and 2041) ADT Volumes: Build and No Build (Figure 3)
4. Existing Year (2015) Peak Hour DHV Volumes (Figure 4)
5. Opening Year (2019) Peak Hour DHV Volumes: Build and No Build (Figure 5)
6. Design Year (2039) Peak Hour DHV Volumes: Build and No Build (Figure 6)
7. Opening Plus Two Years (2021) Peak Hour DHV Volumes: Build and No Build (Figure 7)
8. Design Plus Two Years (2041) Peak Hour DHV Volumes: Build and No Build (Figure 8)

These flow diagrams were approved by GDOT Office of Planning on May 17, 2016 and are included in Appendix D.

Crash History

Crash reports were obtained from the GDOT GEARS crash database for 2012, 2013 and 2014.

The intersection crash data was also investigated to determine whether a particular incident type (such as angle or rear-end crashes) was the most prevalent. Identifying the predominant type of crash that occurs at an intersection can help identify potential safety solutions. The types of crashes at the Jesse Jewell Parkway at John Morrow Parkway/Queen City Parkway intersection are summarized in Table 10.

As shown in Table 10, rear end and angle crashes are the predominant vehicle crash types at the study intersection. Rear end collisions are a typical occurrence on congested facilities or at signalized intersections. Busy intersections that have horizontal or vertical curves on the approach legs can also experience higher crash rates due to the shortened sight distance of the roadway geometry. The approach directions of the rear end crashes (with Jesse Jewell Parkway defined as the north/south facility) are shown in Table 11.

Table 10 Jesse Jewell Parkway at John Morrow Parkway/Queen City Parkway Crash Distribution (2012-2014)

Crash Type (Intersection)	Total	Overall Percentage
Angle	6	15%
Head On	1	2%
Rear End	25	61%
Sideswipe - Same Direction	6	15%
Sideswipe - Opposite Direction	1	2%
Not A Collision With A Motor Vehicle	2	5%
Total	**41**	**100%**

Table 11 Jesse Jewell Parkway at John Morrow Parkway/Queen City Parkway Rear-End Crash Distribution By Approach (2012-2014)

Crash Approach	Total	Overall Percentage
Northbound Jesse Jewell Parkway	6	24%
Southbound Jesse Jewell Parkway	2	8%
Eastbound John Morrow Parkway	12	48%
Westbound Queen City Parkway	5	20%
Total	**25**	**100%**

The eastbound John Morrow Parkway approach, which does include a horizontal curve, has the highest crash experience. However, other factors could also cause this increase

in crash experience, including the intersection signal timing. This crash analysis information should be considered in the future intersection design.

If further crash experience at this intersection is studied, it should be noted that the coding of the crash data at this intersection is inconsistent on which facilities are the north/south and east/west legs of the intersection. The crash analysis shown above was performed by a detailed review of the crash report diagrams between 2012 and 2014 to assign a consistent reference: Jesse Jewell Parkway as north/south and John Morrow Parkway/Queen City Parkway as east/west. Future crash summary analysis for other years is anticipated to need a similar level of review in order to determine the directionality of crash experience.

TRAFFIC ANALYSIS

The study intersections were analyzed for the existing condition, future conditions with the existing geometry and future conditions with recommended improvements. All analyses conducted as part of this study have been based on the data collected for the existing condition and the approved traffic flow diagrams included in Appendix D.

Level of Service Methodology

Intersection capacity analyses were performed to determine the existing traffic conditions within the study area using the methodology outlined in the 2010 Highway Capacity Manual (HCM). This methodology is the industry standard for the evaluation of intersection capacity and delay. In order to facilitate the analysis, computer software Synchro and HCS 2010 were used. This software conforms to the methodology of the HCM. The vehicular delay value that results from the Synchro analysis is used to determine the level of service of an intersection.

Level of service (LOS) is a letter designation used to describe traffic operating conditions, on a declining scale from A to F. LOS “A” represents free-flow traffic conditions and LOS “F” represents extreme delays with stopped traffic conditions. The following tables indicate the relationship between delay and LOS for signalized and unsignalized intersections.

Table 12 LOS for Unsignalized Intersections	
Level of Service	**Control Delay Per Vehicle (sec)**
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Table 13 LOS for Signalized Intersections	
Level of Service	**Control Delay Per Vehicle (sec)**
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

The typical HCM methodology has difficulty giving reasonable results for some intersections because of problems with analyzing over capacity conditions. Therefore two different methodologies available in Synchro were used in the analysis: Microsimulation (SimTraffic) and Percentile Delay Method. After evaluation of the results and comparison to microsimulation (SimTraffic) delays, the Percentile Delay Method of calculating LOS included in Synchro was used to report the analysis results. The Percentile Delay Method is designed to model coordination and actuated signals in detail. This LOS calculation looks at five percentiles of traffic arrivals so that actuated signals can be evaluated under varying traffic loads. This approach models the non-linear behavior of vehicle arrivals on actuated signals and can more accurately reflect

traffic conditions in congested areas.

Existing Intersection Capacity Analysis

The results for existing LOS conditions using the Percentile Delay Method can be seen in Table 14. The resulting queue lengths for the movements with an existing exclusive turn lane are shown in Table 15. The Existing (2015) detailed analysis is in included in Appendix E.

Table 14 Existing Traffic Operations (Percentile Delay Method)

Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	AM Peak		Midday Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Existing Conditions	D	54	D	52	E	57

Table 15 Study Intersection Queue Lengths* (No Build) Using Percentile Delay Method

Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	Northbound (Jesse Jewell Pkwy)	Southbound (Jesse Jewell Pkwy)	Eastbound (John Morrow Pkwy)		Westbound (Queen City Pkwy)
	Left (ft)	Left (ft)	Left (ft)	Right (ft)	Left (ft)
Existing Conditions (50th Percentile – Average Queue)	30	176	242	0	61
Existing Conditions (95th Percentile Queue)	96**	350**	304	0	95

* Maximum length of the three peak hour conditions, ** 95th percentile volume exceeds capacity and queue is theoretically infinite

Because of the limitation of the HCM methodology for determining queue lengths in oversaturated conditions (which only increase in future analysis), microsimulation was considered for determining queue lengths for turn bay length information.

Microsimulation models track individual vehicle movements on a second or subsecond basis, where macroscopic models (such as the Synchro Percentile analysis) analyze traffic streams as a whole by evaluating overall characteristics such as flow, density and mean speed. The network was analyzed in the SimTraffic microsimulation to determine the overall intersection delay and turn lane queueing over the course of the entire peak hour. Five runs of the microsimulation model were performed and averaged to get typical results. Table 16 shows the comparison of the Synchro percentile intersection delay and the SimTraffic overall intersection delay for the analysis. The resulting lane queues from

the existing microsimulation analysis are shown in Table 17. The Existing (2015) detailed SimTraffic outputs for the peak hour conditions are included in Appendix F.

Table 16 Existing Traffic Operations (Percentile Delay Method and Microsimulation Result Comparison

Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	AM Peak		Midday Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Existing Conditions (Percentile Delay Method)	D	54	D	52	E	57
SimTraffic Microsimulation Results	E	56	E	56	D	53
Difference (Seconds)		-2		-4		+4
Difference (Percentage)		-4%		-7%		7%

Table 17 Study Intersection Queue Lengths* (No Build) Using Microsimulation Method

Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	Northbound (Jesse Jewell Pkwy)	Southbound (Jesse Jewell Pkwy)	Eastbound (John Morrow Pkwy)		Westbound (Queen City Pkwy)
	Left (ft)	Left (ft)	Left (ft)	Right (ft)	Left (ft)
Existing Conditions (50th Percentile – Average Queue)	72	199	236	44	115
Existing Conditions (95th Percentile Queue)	164	413	309	112	245

* Maximum length of the three peak hour conditions

As shown in Table 16, the Synchro percentile delay and the SimTraffic microsimulation procedure described above result in similar (within 5 seconds) overall intersection delays. The queue lengths shown in Table 17 are reasonably consistent with those observed during field visits.

Future Conditions Capacity Analysis (No Build)

The study intersection was evaluated for each of the future No Build years. The percentile LOS and delay results are shown in Table 18. The microsimulation lane queues are shown in Table 19 for No Build 2019 conditions, Table 20 for No Build 2021 conditions, Table 21 for No Build 2039 conditions and Table 22 for No Build 2041 conditions. The No Build detailed analysis is in included in Appendix E.

Table 18 No Build Traffic Operations (Percentile Delay Method)

Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	AM Peak		Midday Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
No Build 2019 Condition (Opening Year)	E	58	E	55	E	61
No Build 2021 Condition	E	60	E	58	E	67
No Build 2039 Condition (Design Year)	E	76	E	74	F	90
No Build 2041 Condition	F	80	E	78	F	100

As shown in Table 18, the study intersection is expected to experience LOS F conditions by the 2039 Design Year traffic conditions during the weekday peak periods in the No Build condition. The No Build detailed SimTraffic outputs for the peak hour conditions are included in Appendix F.

Table 19 Study Intersection 2019 Queue Lengths* (No Build) Using Microsimulation Method

Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	Northbound (Jesse Jewell Pkwy)	Southbound (Jesse Jewell Pkwy)	Eastbound (John Morrow Pkwy)		Westbound (Queen City Pkwy)
	Left (ft)	Left (ft)	Left (ft)	Right (ft)	Left (ft)
2019 No Build Conditions (50th Percentile – Average Queue)	76	220	244	60	139
2019 No Build (95th Percentile Queue)	162	486	319	152	266

* Maximum length of the three peak hour conditions

Table 20 Study Intersection 2021 Queue Lengths* (No Build) Using Microsimulation Method					
Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	**Northbound (Jesse Jewell Pkwy)**	**Southbound (Jesse Jewell Pkwy)**	**Eastbound (John Morrow Pkwy)**		**Westbound (Queen City Pkwy)**
	Left (ft)	**Left (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**
2021 No Build Conditions (50th Percentile – Average Queue)	76	319	242	44	125
2021 No Build (95th Percentile Queue)	166	573	313	104	260

* Maximum length of the three peak hour conditions

Table 21 Study Intersection 2039 Queue Lengths* (No Build) Using Microsimulation Method					
Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	**Northbound (Jesse Jewell Pkwy)**	**Southbound (Jesse Jewell Pkwy)**	**Eastbound (John Morrow Pkwy)**		**Westbound (Queen City Pkwy)**
	Left (ft)	**Left (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**
2039 No Build (50th Percentile – Average Queue)	101	409	272	85	175
2039 No Build (95th Percentile Queue)	186	612	307	216	275

* Maximum length of the three peak hour conditions

Table 22 Study Intersection 2041 Queue Lengths*(No Build) Using Microsimulation Method					
Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	**Northbound (Jesse Jewell Pkwy)**	**Southbound (Jesse Jewell Pkwy)**	**Eastbound (John Morrow Pkwy)**		**Westbound (Queen City Pkwy)**
	Left (ft)	**Left (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**
2041 No Build (50th Percentile – Average Queue)	101	424	272	89	180
2041 No Build (95th Percentile Queue)	184	604	302	219	275

* Maximum length of the three peak hour conditions

As shown in the above tables, the storage length requirements for the exclusive turning movements are expected to increase as volumes at the intersection increase. By the 2039 Design Year No Build peak hour conditions, every turn bay storage on each approach is expected to be insufficient to store the weekday peak 95th percentile queue.

PROPOSED PROJECT IMPROVEMENTS

Roadway Geometry

The project will enhance the efficiency of vehicular movements by adding right turn lanes on the three approaches that do not currently have right turn lanes. The new intersection roadway geometry will be as follows:

- Northbound approach (Jesse Jewell Parkway): one exclusive left turn lane, two exclusive through lanes and one exclusive right turn lane
- Southbound approach (Jesse Jewell Parkway): one exclusive left turn lane, two exclusive through lanes and one exclusive right turn lane
- Eastbound approach (John Morrow Parkway): two exclusive left turn lanes, two exclusive through lanes and one exclusive right turn lane
- Westbound approach (Queen City Parkway): two exclusive left turn lanes, two exclusive through lanes and one exclusive right turn lane

These existing exclusive turn lanes have the following approximate storage lengths:

- Northbound approach (Jesse Jewell Parkway): one exclusive left turn lane (110 feet) and one exclusive right turn lane (300 feet)

- Southbound approach (Jesse Jewell Parkway): one exclusive left turn lane (435 feet) and one exclusive right turn lane (195 feet)

- Eastbound approach (John Morrow Parkway): two exclusive left turn lanes (180 feet) and one exclusive right turn lane (175 feet)

- Westbound approach (Queen City Parkway): two exclusive left turn lanes (120 feet) and one exclusive right turn lane (305 feet)

Future Conditions Capacity Analysis (Build)

The study intersection was evaluated for each of the future Build years, as shown in Table 23. The Build detailed analysis is in included in Appendix G. The microsimulation lane queues are shown in Table 24 for Build 2019 conditions, Table 25 for Build 2021 conditions, Table 26 for Build 2039 conditions and Table 27 for Build 2041 conditions. The Build detailed SimTraffic outputs for the peak hour conditions are included in Appendix H.

Table 23 Build Traffic Operations (Percentile Delay Method)

Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	AM Peak		Midday Peak		PM Peak	
	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
Build 2019 Condition (Opening Year)	D	44	D	40	D	45
Build 2021 Condition	D	46	D	40	D	45
Build 2039 Condition (Design Year)	D	54	D	46	D	52
Build 2041 Condition	E	55	D	49	E	57

The study intersection is expected to operate acceptably in the Design Year (2039) conditions. In the Design Year + 2 conditions, LOS operations during the AM and PM peak periods are expected to reach LOS E. This LOS is not atypical for urban areas on principal arterial routes.

Table 24 Study Intersection 2019 Queue Lengths* (Build) Using Microsimulation Method								
Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	**Northbound (Jesse Jewell Pkwy)**		**Southbound (Jesse Jewell Pkwy)**		**Eastbound (John Morrow Pkwy)**		**Westbound (Queen City Pkwy)**	
	Left (ft)	**Right (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**	**Right (ft)**
2019 Build Conditions (50th Percentile – Average Queue)	72	140	155	176	206	45	85	120
2019 Build (95th Percentile Queue)	166	375	306	306	284	109	201	250

* Maximum length of the three peak hour conditions

Table 25 Study Intersection 2021 Queue Lengths* (Build) Using Microsimulation Method								
Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	**Northbound (Jesse Jewell Pkwy)**		**Southbound (Jesse Jewell Pkwy)**		**Eastbound (John Morrow Pkwy)**		**Westbound (Queen City Pkwy)**	
	Left (ft)	**Right (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**	**Right (ft)**
2021 Build Conditions (50th Percentile – Average Queue)	70	140	167	179	220	49	102	134
2021 Build (95th Percentile Queue)	167	387	300	295	325	130	229	272

* Maximum length of the three peak hour conditions

Table 26 Study Intersection 2039 Queue Lengths* (Build) Using Microsimulation Method								
Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	**Northbound (Jesse Jewell Pkwy)**		**Southbound (Jesse Jewell Pkwy)**		**Eastbound (John Morrow Pkwy)**		**Westbound (Queen City Pkwy)**	
	Left (ft)	**Right (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**	**Right (ft)**
2039 Build Conditions (50th Percentile – Average Queue)	80	174	211	193	259	63	109	183
2039 Build (95th Percentile Queue)	169	413	359	303	358	153	242	341

* Maximum length of the three peak hour conditions

Table 27 Study Intersection 2041 Queue Lengths* (Build) Using Microsimulation Method								
Jesse Jewell Pkwy at John Morrow Pkwy/Queen City Pkwy Intersection	**Northbound (Jesse Jewell Pkwy)**		**Southbound (Jesse Jewell Pkwy)**		**Eastbound (John Morrow Pkwy)**		**Westbound (Queen City Pkwy)**	
	Left (ft)	**Right (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**	**Right (ft)**	**Left (ft)**	**Right (ft)**
2041 Build Conditions (50th Percentile – Average Queue)	79	212	220	192	273	73	134	199
2041 Build (95th Percentile Queue)	170	438	399	298	374	187	265	362

* Maximum length of the three peak hour conditions

Based on the data shown in Table 26, the proposed concept plan will have sufficient storage for average peak hour queue lengths in all directions except the eastbound left, movement from John Morrow Parkway to northbound Jesse Jewell Parkway. The dual eastbound left turn lanes do have a large taper area located in a curve that allows additional vehicles to squeeze into the queue, but pulling the raised median curb back to extend the full storage should be considered as part of the project.

The Design Year (2039) 95th percentile queue lengths exceed the full storage capacity on all directions except for the following:

- southbound left movement from Jesse Jewell Parkway to Queen City Parkway (which has a long storage distance)
- eastbound right turn movement from John Morrow Parkway to southbound Jesse Jewell Parkway (which has a relatively low traffic volume).

Physical constraints in the area, such as adjacent driveways and gas storage tanks, may restrict further extension of storage lane lengths. As part of the Value Engineering process, extension of these lanes should be considered if they can be accommodated as part of the intersection design without unduly complicating the project.

CONCLUSIONS

SEI has conducted an analysis of the existing and future conditions for the intersection of Jesse Jewell Parkway/Browns Bridge Road/SR 369/SR 60 and John W. Morrow Jr. Parkway/Queen City Parkway/SR 53 Conn/SR 60. This intersection is currently congested (LOS E during weekday PM peak conditions) and serves a high volume of traffic during weekday AM, midday and PM peaks. By the Design Year (2039) traffic conditions, this intersection is expected to operate at LOS F.

After implementation of the project, the study intersection is expected to operate acceptably with LOS D through the Design Year (2039) conditions. In the Design Year + 2 conditions (2041), LOS operations during the AM and PM peak periods are expected to reach LOS E. .

The project will enhance the efficiency of vehicular movements by adding right turn lanes on the three approaches that do not currently have right turn lanes. The new intersection roadway geometry will have turn lanes on all approaches with the following approximate storage lengths:

- Northbound approach (Jesse Jewell Parkway): one exclusive left turn lane (110 feet) and one exclusive right turn lane (300 feet)
- Southbound approach (Jesse Jewell Parkway): one exclusive left turn lane (435 feet) and one exclusive right turn lane (195 feet)
- Eastbound approach (John Morrow Parkway): two exclusive left turn lanes (180 feet) and one exclusive right turn lane (175 feet)

- Westbound approach (Queen City Parkway): two exclusive left turn lanes (120 feet) and one exclusive right turn lane (305 feet)

The proposed concept plan will have sufficient storage for average peak hour queue lengths in all directions except the eastbound left, movement from John Morrow Parkway to northbound Jesse Jewell Parkway. Pulling the raised median curb back to extend the full storage should be considered on this approach.

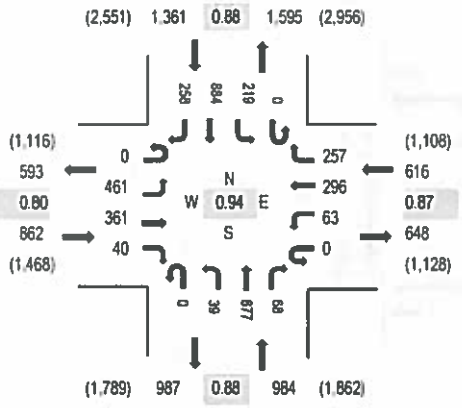
The anticipated Design Year traffic 95th percentile queue lengths exceeded turn lane storage lengths in all directions except for the following two: the southbound left movement from Jesse Jewell Parkway to Queen City Parkway (which has a long storage distance) and the eastbound right turn movement from John Morrow Parkway to southbound Jesse Jewell Parkway (which has a relatively low traffic volume). Physical constraints in the area, such as adjacent driveways and gas storage tanks, may restrict further extension of storage lane lengths for other the other movements. However, as part of the Value Engineering process, extension of these lanes should be considered if they can be accommodated as part of the intersection design without unduly complicating the project.

Appendix A
Peak Hour Traffic Data

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

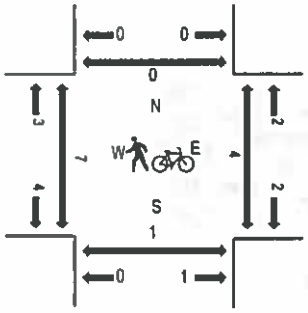
Location: Jesse Jewell Pkwy & Queen City Pkwy AM
Date and Start Time: Thursday, October 8, 2015
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Queen City Pkwy Eastbound				Queen City Pkwy Westbound				Jesse Jewell Pkwy Northbound				Jesse Jewell Pkwy Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00:00 AM	0	68	57	7	0	9	47	32	0	8	169	4	0	55	179	47	682	3,526	0	0	0	1
7:15:00 AM	0	103	70	8	0	10	61	56	0	11	200	9	0	57	190	78	853	3,772	1	0	0	0
7:30:00 AM	0	137	122	12	0	22	77	45	0	4	195	16	0	53	237	50	970	3,823	0	2	0	0
7:45:00 AM	0	101	104	8	0	12	67	61	0	19	242	20	0	64	260	63	1,021	3,694	0	0	0	0
8:00:00 AM	0	117	87	13	0	16	89	73	0	7	193	16	0	51	187	79	928	3,463	4	1	1	0
8:15:00 AM	0	106	48	7	0	13	63	78	0	9	247	16	0	51	200	66	904		0	1	0	0
8:30:00 AM	0	87	59	9	0	17	56	73	0	5	220	20	0	42	188	65	841		1	5	0	0
8:45:00 AM	0	93	41	4	0	12	66	53	0	7	207	18	0	48	169	72	790		3	2	0	0

Peak Rolling Hour Flow Rates

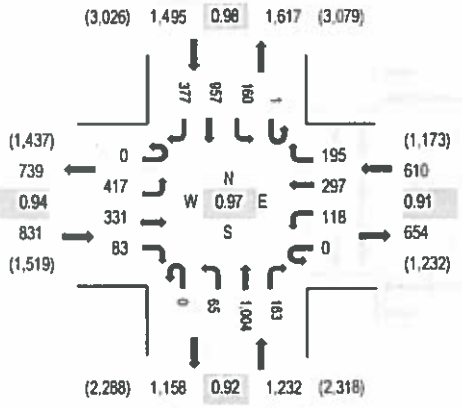
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	7	7	0	0	1	5	7	0	0	5	1	0	2	4	8	47
Lights	0	448	350	39	0	58	277	241	0	38	843	64	0	213	861	232	3,664
Mediums	0	6	4	1	0	4	14	9	0	1	29	3	0	4	19	18	112
Total	0	461	361	40	0	63	296	257	0	39	877	68	0	219	884	258	3,823

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

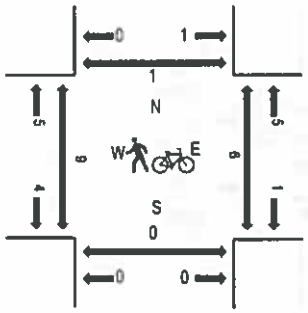
Location: Jesse Jewell Pkwy & Queen City Pkwy Noon
Date and Start Time: Thursday, October 8, 2015
Peak Hour: 12:30 PM - 01:30 PM
Peak 15-Minutes: 01:15 PM - 01:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Queen City Pkwy Eastbound				Queen City Pkwy Westbound				Jesse Jewell Pkwy Northbound				Jesse Jewell Pkwy Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
12:00:00 PM	0	73	61	18	0	33	76	53	0	10	228	43	0	48	267	122	1,032	4,080	1	1	0	0
12:15:00 PM	1	88	61	12	0	31	63	38	0	8	203	43	1	43	263	107	962	4,058	2	0	0	0
12:30:00 PM	0	106	69	27	0	39	70	46	0	21	235	43	0	48	236	97	1,037	4,168	4	1	0	1
12:45:00 PM	0	97	77	24	0	24	65	49	0	19	265	50	0	29	248	102	1,049	4,060	1	2	0	0
1:00:00 PM	0	106	93	21	0	23	79	47	0	11	252	24	0	41	233	80	1,010	3,956	3	2	0	0
1:15:00 PM	0	108	92	11	0	32	83	53	0	14	252	46	1	42	240	58	1,072		0	0	0	0
1:30:00 PM	0	113	58	25	0	12	57	37	0	12	223	39	0	45	229	79	929		5	1	0	0
1:45:00 PM	0	114	54	10	0	24	75	64	0	12	227	38	0	45	206	76	945		3	1	0	0

Peak Rolling Hour Flow Rates

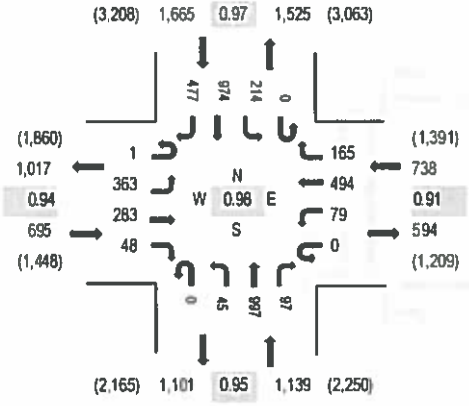
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	13	4	2	0	2	4	1	0	1	6	3	0	0	9	13	58
Lights	0	396	314	79	0	114	283	187	0	64	980	155	1	156	927	351	4,007
Mediums	0	8	13	2	0	2	10	7	0	0	18	5	0	4	21	13	103
Total	0	417	331	83	0	118	297	195	0	65	1,004	163	1	160	957	377	4,168

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

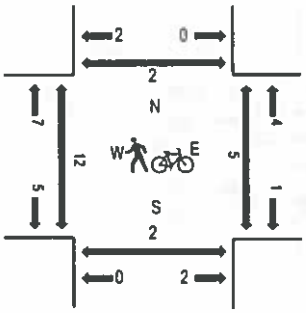
Location: Jesse Jewell Pkwy & Queen City Pkwy PM
Date and Start Time: Thursday, October 8, 2015
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	Queen City Pkwy Eastbound				Queen City Pkwy Westbound				Jesse Jewell Pkwy Northbound				Jesse Jewell Pkwy Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00:00 PM	0	78	76	13	0	21	89	44	0	11	243	20	0	46	267	88	996	4,099	2	0	0	0
4:15:00 PM	0	87	78	8	0	18	106	51	0	14	238	30	0	49	242	100	1,021	4,159	1	1	1	0
4:30:00 PM	0	108	83	8	0	24	101	42	0	12	252	21	0	38	213	117	1,019	4,218	5	1	1	0
4:45:00 PM	1	89	74	10	0	23	104	54	0	10	241	32	0	54	258	113	1,063	4,237	3	1	0	0
5:00:00 PM	0	94	69	10	0	23	136	44	0	13	230	27	0	54	242	114	1,056	4,198	0	1	0	0
5:15:00 PM	0	83	87	14	0	24	141	29	0	9	267	24	0	43	235	124	1,080		4	2	2	2
5:30:00 PM	0	97	53	14	0	9	113	38	0	13	259	14	0	63	239	126	1,038		2	1	0	0
5:45:00 PM	0	104	95	15	0	15	84	58	0	15	233	22	0	57	220	106	1,024		2	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	4	2	1	0	2	3	1	0	0	5	4	0	1	1	2	26
Lights	1	351	269	46	0	77	484	161	0	45	973	91	0	209	955	465	4,127
Mediums	0	8	12	1	0	0	7	3	0	0	19	2	0	4	18	10	84
Total	1	363	283	48	0	79	494	165	0	45	997	97	0	214	974	477	4,237

Appendix B

Daily Traffic Data, Factors and Calculations

Station	Description	Date of Count	NB/EB	SB/WB	Total	SF	AF	NB/EB	SB/WB	Total	Growth Factor	NB/EB	SB/WB	Total
1390196	Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	May-14	20,452	20,246	40,698	0.97	0.97	19,243	19,049	38,292				
1390313	John Morrow Pkwy west of Jesse Jewell Pkwy	Jun-13	9,596	9,809	19,404	1	0.97	9,308	9,514	18,822	1.02	9,494	9,704	19,198
1390312	Queen City Pkwy east of Jesse Jewell Pkwy	Jun-13	8,370	8,598	16,968	1	0.97	8,119	8,340	16,459	1.02	8,281	8,507	16,788

Rounded

Station	Description							NB/EB	SB/WB	Total		NB/EB	SB/WB	Total
1390196	Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy							19,250	19,050	38,300				
1390313	John Morrow Pkwy west of Jesse Jewell Pkwy							9,325	9,525	18,850		9,500	9,725	19,225
1390312	Queen City Pkwy east of Jesse Jewell Pkwy							8,125	8,350	16,475		8,300	8,525	16,825

2013 Traffic Factors

Monthly Factors

Factor Group	Functional_Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	Rural_Local_Coll	1.1	1.06	1.02	0.98	0.96	1.01	0.99	0.97	0.97	0.93	1.01	1.04
02	Rural_Minor_Art	1.07	1.03	0.99	0.97	0.97	1.01	1.01	1	0.99	0.96	1	1.03
03	Rural_Major_Art	1.12	1.06	1.02	1	0.98	0.98	0.97	0.99	0.99	0.93	0.99	1.03
04	Rural_I-75	1.13	1.08	0.9	1.02	1.01	0.88	0.87	1.04	1.15	0.98	1.02	1.03
05	Rural_I-85	1.17	1.11	1.01	0.99	0.95	0.92	0.9	0.96	1.03	1	1.01	1
06	Rural_Int	1.17	1.11	0.98	0.97	0.95	0.9	0.89	0.97	1.05	1.01	1.03	1.03
07	Sm_Urb_Local_Coll	1.04	0.99	0.96	0.98	0.94	0.99	1.03	0.99	1.01	1.02	1.05	1.03
08	Sm_Urb_Art	1.06	1	0.97	0.99	0.96	1.02	1.02	1	1.02	0.99	0.99	1
09	Sm_Urb/Urb_Freeways_Int (Not ATL)	1.08	1.04	0.97	0.99	0.97	0.98	0.97	0.99	1.02	0.99	1	1.01
10	Urb_Local_Coll	1.06	1.02	0.99	0.98	0.96	1.04	1.03	0.98	0.97	0.96	1.01	1.03
11	Urb_Minor_Art (Not ATL)	1.04	1	0.98	0.98	0.97	1.03	1.03	1	0.98	0.98	1.01	1.03
12	Urb_Major_Art (Not ATL)	1.06	1.01	0.98	0.98	0.97	1	1	0.99	0.99	0.98	1.02	1.03
13	Urb_Minor_Art_ATL	1.05	1.01	0.98	0.96	0.97	1.02	1.02	1	0.99	0.97	1.01	1.05
14	Urb_Major_Art_ATL	1.07	1.02	0.99	0.99	0.96	0.99	1	0.99	1	0.98	1.01	1.03
15	Urb_Freeways_Int_ATL	1.07	1.03	0.98	0.99	0.97	0.99	0.97	0.99	1	0.98	1.01	1.02
16	Urb_I-285	1.07	1.03	1.00	0.98	0.97	0.97	0.97	0.99	1.01	0.99	1.01	1.02

Daily Factors

Factor Group	Functional_Class	Mon	Tue	Wed	Thu	Fri	Sat	Sun
01	Rural_Local_Coll	1	0.97	0.97	0.95	0.88	1.05	1.28
02	Rural_Minor_Art	0.99	0.97	0.96	0.93	0.87	1.08	1.3
03	Rural_Major_Art	1.01	1.01	0.99	0.95	0.86	1.03	1.23
04	Rural_I-75	1.08	1.16	1.1	0.99	0.85	0.93	0.96
05	Rural_I-85	1.07	1.12	1.08	1	0.83	0.98	0.97
06	Rural_Int	1.07	1.16	1.11	1	0.81	0.99	0.94
07	Sm_Urb_Local_Coll	0.99	0.97	0.95	0.93	0.87	1.06	1.33
08	Sm_Urb_Art	1	0.99	0.98	0.94	0.83	1.05	1.35
09	Sm_Urb/Urb_Freeways_Int (Not ATL)	1	1.01	0.98	0.94	0.86	1.06	1.22
10	Urb_Local_Coll	0.96	0.93	0.92	0.91	0.9	1.17	1.37
11	Urb_Minor_Art (Not ATL)	0.96	0.93	0.92	0.9	0.87	1.15	1.49
12	Urb_Major_Art (Not ATL)	0.98	0.95	0.93	0.91	0.87	1.1	1.43
13	Urb_Minor_Art_ATL	0.96	0.93	0.92	0.91	0.88	1.14	1.46
14	Urb_Major_Art_ATL	1	0.96	0.94	0.93	0.89	1.06	1.35
15	Urb_Freeways_Int_ATL	0.99	0.98	0.96	0.93	0.9	1.07	1.25
16	Urb_I-285	0.97	0.95	0.94	0.91	0.88	1.13	1.37

2013 Traffic Factors

Axle Factors

Factor Group	Functional_Class	Axle Factor
01	Rural_Local_Coll	0.95
02	Rural_Minor_Art	0.93
03	Rural_Major_Art	0.92
04	Rural_I-75	0.76
05	Rural_I-85	0.77
06	Rural_Int	0.77
07	Sm_Urb_Local_Coll	0.98
08	Sm_Urb_Art	0.93
09	Sm_Urb/Urb_Freeways_Int (Not ATL)	0.87
10	Urb_Local_Coll	0.99
11	Urb_Minor_Art (Not ATL)	0.98
12	Urb_Major_Art (Not ATL)	0.97
13	Urb_Minor_Art_ATL	0.98
14	Urb_Major_Art_ATL	0.99
15	Urb_Freeways_Int_ATL	0.94
16	Urb_I-285	0.87

Growth Factors

Factor Group	Functional_Class	Growth Factor
01	Rural_Local_Coll	0.99
02	Rural_Minor_Art	1
03	Rural_Major_Art	1
04	Rural_I-75	1.02
05	Rural_I-85	1.02
06	Rural_Int	1.01
07	Sm_Urb_Local_Coll	0.97
08	Sm_Urb_Art	1
09	Sm_Urb/Urb_Freeways_Int (Not ATL)	1.01
10	Urb_Local_Coll	1.02
11	Urb_Minor_Art (Not ATL)	0.99
12	Urb_Major_Art (Not ATL)	1
13	Urb_Minor_Art_ATL	1
14	Urb_Major_Art_ATL	1
15	Urb_Freeways_Int_ATL	1.01
16	Urb_I-285	1.01

2014 Traffic Factors

Monthly Factors

Factor Group	Functional_Class	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
01	Rural_Local_Coll	1.18	1.08	1	0.97	0.95	1	0.99	0.95	0.97	0.91	1.01	1.03
02	Rural_Minor_Art	1.15	1.04	1	0.99	0.98	0.99	1.01	0.98	0.98	0.93	0.98	1.01
03	Rural_Major_Art	1.16	1.05	1	0.99	0.97	0.96	0.98	0.99	1.00	0.94	0.98	1.01
04	Rural_I-75	1.17	1.14	0.91	0.95	1.01	0.92	0.87	1.08	1.14	0.99	0.98	0.95
05	Rural_I-85	1.22	1.17	1.05	0.99	0.95	0.92	0.88	0.95	1.03	1	0.97	0.97
06	Rural_Int	1.19	1.13	1.01	0.96	0.96	0.93	0.89	0.99	1.03	1	0.98	1.01
07	Sm_Urb_Local_Coll	1.11	1.03	0.95	0.95	0.96	1.01	1.04	0.98	0.98	0.99	1.02	1.01
08	Sm_Urb_Art	1.11	0.98	0.96	0.97	0.96	0.98	1	1	1.02	1	1.01	1.01
09	Sm_Urb/Urb_Freeways_Int (Not ATL)	1.13	1.05	0.97	0.96	0.98	0.96	0.97	0.99	1.03	0.98	1.01	1.01
10	Urb_Local_Coll	1.11	1.03	0.95	0.97	0.95	1	1.05	0.98	0.98	0.95	1.02	1.05
11	Urb_Minor_Art (Not ATL)	1.11	1	0.97	0.97	0.97	1	1.03	0.98	0.98	0.96	1.02	1.03
12	Urb_Major_Art (Not ATL)	1.13	1	0.97	0.97	0.97	0.98	1.01	0.98	1	0.98	1.03	1.03
13	Urb_Minor_Art_ATL	1.12	1.05	0.97	0.98	0.97	0.98	1.01	0.96	0.97	0.96	1.03	1.03
14	Urb_Major_Art_ATL	1.11	1.01	0.97	0.98	0.97	0.99	1.02	0.98	0.99	0.98	1.02	1.01
15	Urb_Freeways_Int_ATL	1.13	1.03	0.99	0.99	0.98	0.97	0.98	0.97	0.99	0.97	1.01	1
16	Urb_I-285	1.10	1.01	0.98	0.98	0.98	0.98	1	0.98	0.99	0.99	1.02	1.01

Daily Factors

Factor Group	Functional_Class	Mon	Tue	Wed	Thu	Fri	Sat	Sun
01	Rural_Local_Coll	1.01	1	0.98	0.96	0.88	1.03	1.20
02	Rural_Minor_Art	0.98	0.97	0.97	0.94	0.86	1.08	1.30
03	Rural_Major_Art	1.01	1	1	0.95	0.85	1.05	1.22
04	Rural_I-75	1.10	1.20	1.15	1.03	0.85	0.89	0.91
05	Rural_I-85	1.07	1.15	1.09	1.02	0.84	0.98	0.92
06	Rural_Int	1.06	1.11	1.13	1.05	0.83	0.97	0.93
07	Sm_Urb_Local_Coll	0.98	0.96	0.98	0.95	0.86	1.04	1.36
08	Sm_Urb_Art	1	0.99	0.99	0.95	0.83	1.05	1.30
09	Sm_Urb/Urb_Freeways_Int (Not ATL)	1	1.01	1	0.96	0.86	1.05	1.18
10	Urb_Local_Coll	0.95	0.92	0.92	0.92	0.89	1.19	1.39
11	Urb_Minor_Art (Not ATL)	0.96	0.93	0.94	0.92	0.86	1.13	1.44
12	Urb_Major_Art (Not ATL)	0.97	0.94	0.95	0.92	0.86	1.11	1.41
13	Urb_Minor_Art_ATL	0.96	0.93	0.94	0.93	0.88	1.12	1.41
14	Urb_Major_Art_ATL	0.99	0.95	0.96	0.93	0.88	1.06	1.34
15	Urb_Freeways_Int_ATL	0.99	0.99	0.97	0.95	0.90	1.05	1.21
16	Urb_I-285	0.98	0.96	0.94	0.92	0.90	1.10	1.33

2014 Traffic Factors

Axle Factors

Factor Group	Functional_Class	Axle Factor
01	Rural_Local_Coll	0.94
02	Rural_Minor_Art	0.90
03	Rural_Major_Art	0.88
04	Rural_I-75	0.77
05	Rural_I-85	0.77
06	Rural_Int	0.80
07	Sm_Urb_Local_Coll	0.98
08	Sm_Urb_Art	0.92
09	Sm_Urb/Urb_Freeways_Int (Not ATL)	0.88
10	Urb_Local_Coll	0.97
11	Urb_Minor_Art (Not ATL)	0.97
12	Urb_Major_Art (Not ATL)	0.97
13	Urb_Minor_Art_ATL	0.99
14	Urb_Major_Art_ATL	0.99
15	Urb_Freeways_Int_ATL	0.95
16	Urb_I-285	0.88

Growth Factors

Factor Group	Functional_Class	Growth Factor
01	Rural_Local_Coll	1
02	Rural_Minor_Art	1.01
03	Rural_Major_Art	1.02
04	Rural_I-75	1.05
05	Rural_I-85	1.04
06	Rural_Int	1.06
07	Sm_Urb_Local_Coll	0.97
08	Sm_Urb_Art	0.99
09	Sm_Urb/Urb_Freeways_Int (Not ATL)	1.02
10	Urb_Local_Coll	1.03
11	Urb_Minor_Art (Not ATL)	1.01
12	Urb_Major_Art (Not ATL)	0.99
13	Urb_Minor_Art_ATL	1.01
14	Urb_Major_Art_ATL	1.01
15	Urb_Freeways_Int_ATL	1.02
16	Urb_I-285	1.01

About Station 1390196

Station ID	**1390196**	
County	Hall	
City		
Road		
Road functional class	urban - Principal Arterial - Other	
Description		
Routes	Route Number	6000
	Concurrent Route Number	
	Concurrent Route 2	
	Concurrent Route 3	
LRS Section ID	1391006000 @ 0.000 Miles	
Traffic Segment	0 0.000 to 0.000 Miles	
Coordinate (Lat/Lon)	34.296000, -83.828300	
Map Reference		
Camera ID		

Volume

Trucks

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed

	Year	Month	Office Status	Summary	Volume By Hour	Class By Hour
Included	2012	Feb	Count accepted	Summary | By Day	All | East | West	All | East | West
	2014	Jan	Count accepted	Summary | By Day	All | East | West	All | East | West

Speed	Turning Movements
All | East | West	
All | East | West	

Short Term Station 1390196

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Survey Details

Survey ID	6934
Survey Type	class
Year / Month	2014 Jan
Project ID	1.389E+12
Device ID	
Survey Duration	2 Days 0 hours
Notes	
Technician	sts
Survey Status (Office)	

Short Term Station 1390196

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Daily Volumes

	day	E, 1	E, 2	W, 1	W, 2	Total	Dir Split	Actual hours
05/20/2014	Tue	234	0	175	0	409	57.2 %	0
05/21/2014	Wed	20385	0	20078	0	40463	50.4 %	0
05/22/2014	Thu	20281	0	20237	0	40518	50.1 %	0
Total		**40900**	**0**	**40490**	**0**	**81390**		
Days		**2**	**0**	**2**	**0**	**0**		
ADT		**20450**		**20245**				

Short Term Station 1390196

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: All Directions

Time	Tue May 20	Wed May 21	Thu May 22	Total	Avg	Pct
12:00 am		255	259	514	257	0.63
1:00 am		161	193	354	177	0.43
2:00 am		133	136	269	134	0.33
3:00 am		135	152	287	144	0.35
4:00 am		270	253	523	262	0.64
5:00 am		737	685	1422	711	1.75
6:00 am		1605	1571	3176	1588	3.9
7:00 am		2520	2498	5018	2509	6.17
8:00 am		2399	2543	4942	2471	6.07
9:00 am		2204	2235	4439	2220	5.45
10:00 am		2310	2409	4719	2360	5.8
11:00 am		2623	2693	5316	2658	6.53
12:00 pm		2801	2867	5668	2834	6.96
1:00 pm		2709	2803	5512	2756	6.77
2:00 pm		2848	2887	5735	2868	7.05
3:00 pm		2795	2800	5595	2798	6.87
4:00 pm		2848	2881	5729	2864	7.04
5:00 pm		2832	2831	5663	2832	6.96
6:00 pm		2450	2454	4904	2452	6.03
7:00 pm		2086	1850	3936	1968	4.84
8:00 pm		1527	1574	3101	1550	3.81
9:00 pm		1097	1209	2306	1153	2.83
10:00 pm		651	735	1386	693	1.7
11:00 pm	409	467		876	438	1.08
Total	**409**	**40463**	**40518**	**81390**	**40695**	
SF	**0.971**	**0.971**	**0.971**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**36153**			**35870**	

Short Term Station 1390196

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: East

Time	Tue May 20	Wed May 21	Thu May 22	Total	Avg	Pct
12:00 am		137	139	276	138	0.67
1:00 am		83	97	180	90	0.44
2:00 am		68	68	136	68	0.33
3:00 am		72	78	150	75	0.37
4:00 am		101	114	215	108	0.53
5:00 am		345	314	659	330	1.61
6:00 am		852	834	1686	843	4.12
7:00 am		1222	1223	2445	1222	5.98
8:00 am		1304	1338	2642	1321	6.46
9:00 am		1094	1106	2200	1100	5.38
10:00 am		1052	1089	2141	1070	5.23
11:00 am		1189	1185	2374	1187	5.8
12:00 pm		1354	1413	2767	1384	6.77
1:00 pm		1378	1436	2814	1407	6.88
2:00 pm		1452	1462	2914	1457	7.12
3:00 pm		1400	1384	2784	1392	6.81
4:00 pm		1414	1444	2858	1429	6.99
5:00 pm		1420	1404	2824	1412	6.9
6:00 pm		1294	1211	2505	1252	6.12
7:00 pm		1011	923	1934	967	4.73
8:00 pm		849	854	1703	852	4.16
9:00 pm		631	736	1367	684	3.34
10:00 pm		402	429	831	416	2.03
11:00 pm	234	261		495	248	1.21
Total	**234**	**20385**	**20281**	**40900**	**20450**	
SF	**0.971**	**0.971**	**0.971**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**18214**			**18026**	

Short Term Station 1390196

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: West

Time	Tue May 20	Wed May 21	Thu May 22	Total	Avg	Pct
12:00 am		118	120	238	119	0.59
1:00 am		78	96	174	87	0.43
2:00 am		65	68	133	66	0.33
3:00 am		63	74	137	68	0.34
4:00 am		169	139	308	154	0.76
5:00 am		392	371	763	382	1.88
6:00 am		753	737	1490	745	3.68
7:00 am		1298	1275	2573	1286	6.35
8:00 am		1095	1205	2300	1150	5.68
9:00 am		1110	1129	2239	1120	5.53
10:00 am		1258	1320	2578	1289	6.37
11:00 am		1434	1508	2942	1471	7.27
12:00 pm		1447	1454	2901	1450	7.16
1:00 pm		1331	1367	2698	1349	6.66
2:00 pm		1396	1425	2821	1410	6.97
3:00 pm		1395	1416	2811	1406	6.94
4:00 pm		1434	1437	2871	1436	7.09
5:00 pm		1412	1427	2839	1420	7.01
6:00 pm		1156	1243	2399	1200	5.92
7:00 pm		1075	927	2002	1001	4.94
8:00 pm		678	720	1398	699	3.45
9:00 pm		466	473	939	470	2.32
10:00 pm		249	306	555	278	1.37
11:00 pm	175	206		381	190	0.94
Total	**175**	**20078**	**20237**	**40490**	**20245**	
SF	**0.971**	**0.971**	**0.971**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**17939**			**17844**	

Short Term Station 1390196

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Class By Hour

Direction: All Directions

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Vol	Trucks	CU	% Tr	% CU
Tuesday May 20, 2014																				
23:00 PM	1	310	73	0	7	3	0	3	12	0	0	0	0	0	0	409	25	15	6.1	60
Daily Total	1	310	73	0	7	3	0	3	12	0	0	0	0	0	0	409	25	15	6.1	60
Wednesday May 21, 2014																				
00:00 AM	6	189	46	0	3	0	0	0	11	0	0	0	0	0	0	255	14	11	5.5	78.6
01:00 AM	1	122	21	0	5	1	0	2	9	0	0	0	0	0	0	161	17	11	10.6	64.7
02:00 AM	0	95	23	1	2	1	0	2	9	0	0	0	0	0	0	133	15	11	11.3	73.3
03:00 AM	2	86	19	3	6	1	0	3	15	0	0	0	0	0	0	135	28	18	20.7	64.3
04:00 AM	1	181	57	1	8	0	0	3	19	0	0	0	0	0	0	270	31	22	11.5	71
05:00 AM	4	514	161	3	22	3	0	10	20	0	0	0	0	0	0	737	58	30	7.9	51.7
06:00 AM	10	1135	365	9	58	9	0	9	10	0	0	0	0	0	0	1605	95	19	5.9	20
07:00 AM	22	1826	525	16	97	8	0	7	18	1	0	0	0	0	0	2520	147	26	5.8	17.7
08:00 AM	27	1690	505	17	107	22	0	7	23	1	0	0	0	0	0	2399	177	31	7.4	17.5
09:00 AM	11	1586	486	13	65	13	0	10	16	3	0	0	1	0	0	2204	121	30	5.5	24.8
10:00 AM	5	1692	496	9	65	10	0	14	18	1	0	0	0	0	0	2310	117	33	5.1	28.2
11:00 AM	7	1936	536	10	76	19	0	12	26	1	0	0	0	0	0	2623	144	39	5.5	27.1
12:00 PM	16	2133	525	12	71	19	0	8	14	3	0	0	0	0	0	2801	127	25	4.5	19.7
13:00 PM	29	2022	514	9	91	18	0	7	19	0	0	0	0	0	0	2709	144	26	5.3	18.1
14:00 PM	18	2182	512	16	79	6	0	16	18	1	0	0	0	0	0	2848	136	35	4.8	25.7
15:00 PM	30	2076	536	9	86	22	0	17	18	1	0	0	0	0	0	2795	153	36	5.5	23.5
16:00 PM	30	2138	551	9	71	21	0	13	13	2	0	0	0	0	0	2848	129	28	4.5	21.7
17:00 PM	22	2227	484	9	56	13	0	9	12	0	0	0	0	0	0	2832	99	21	3.5	21.2
18:00 PM	21	1911	437	4	52	4	0	10	11	0	0	0	0	0	0	2450	81	21	3.3	25.9
19:00 PM	13	1646	368	2	35	3	0	5	14	0	0	0	0	0	0	2086	59	19	2.8	32.2
20:00 PM	14	1182	296	2	20	2	0	4	7	0	0	0	0	0	0	1527	35	11	2.3	31.4
21:00 PM	11	829	214	2	28	4	0	1	8	0	0	0	0	0	0	1097	43	9	3.9	20.9
22:00 PM	8	520	94	4	12	1	0	0	12	0	0	0	0	0	0	651	29	12	4.5	41.4
23:00 PM	3	367	66	0	12	6	0	1	12	0	0	0	0	0	0	467	31	13	6.6	41.9
Daily Total	311	30595	7910	160	1134	209	0	173	364	14	0	0	1	0	0	40463	2030	537	5	26.5
Thursday May 22, 2014																				
00:00 AM	2	199	42	0	5	0	0	1	10	0	0	0	0	0	0	259	16	11	6.2	68.8
01:00 AM	3	148	27	1	1	1	0	2	10	0	0	0	0	0	0	193	15	12	7.8	80
02:00 AM	1	91	18	0	1	6	0	1	18	0	0	0	0	0	0	136	26	19	19.1	73.1
03:00 AM	0	104	25	3	4	1	0	2	13	0	0	0	0	0	0	152	23	15	15.1	65.2
04:00 AM	4	171	43	0	8	2	0	3	22	0	0	0	0	0	0	253	35	25	13.8	71.4
05:00 AM	6	491	136	2	18	3	0	10	19	0	0	0	0	0	0	685	52	29	7.6	55.8
06:00 AM	14	1086	372	11	55	9	0	7	17	0	0	0	0	0	0	1571	99	24	6.3	24.2
07:00 AM	21	1804	526	20	92	13	0	7	15	0	0	0	0	0	0	2498	147	22	5.9	15
08:00 AM	22	1865	481	19	88	28	0	22	17	1	0	0	0	0	0	2543	175	40	6.9	22.9
09:00 AM	16	1588	483	16	71	22	0	13	21	4	0	0	1	0	0	2235	148	39	6.6	26.4
10:00 AM	10	1792	481	11	64	13	0	12	24	2	0	0	0	0	0	2409	126	38	5.2	30.2
11:00 AM	16	2007	524	9	81	10	0	21	23	2	0	0	0	0	0	2693	146	46	5.4	31.5
12:00 PM	22	2172	532	17	82	12	0	9	19	2	0	0	0	0	0	2867	141	30	4.9	21.3
13:00 PM	26	2114	542	8	67	18	0	11	17	0	0	0	0	0	0	2803	121	28	4.3	23.1
14:00 PM	18	2181	543	13	93	9	0	10	20	0	0	0	0	0	0	2887	145	30	5	20.7
15:00 PM	25	2141	493	15	87	13	1	19	6	0	0	0	0	0	0	2800	141	25	5	17.7
16:00 PM	30	2214	523	12	63	15	1	7	16	0	0	0	0	0	0	2881	114	23	4	20.2
17:00 PM	26	2175	510	8	72	15	1	13	11	0	0	0	0	0	0	2831	120	24	4.2	20
18:00 PM	23	1890	444	8	58	4	0	12	15	0	0	0	0	0	0	2454	97	27	4	27.8
19:00 PM	21	1438	337	6	29	1	0	11	7	0	0	0	0	0	0	1850	54	18	2.9	33.3
20:00 PM	21	1255	248	0	31	0	0	7	10	2	0	0	0	0	0	1574	50	19	3.2	38
21:00 PM	21	947	204	2	20	2	0	4	9	0	0	0	0	0	0	1209	37	13	3.1	35.1
22:00 PM	8	588	110	2	17	1	0	4	5	0	0	0	0	0	0	735	29	9	3.9	31
Overall Total	**668**	**61056**	**15554**	**343**	**2241**	**407**	**3**	**381**	**708**	**27**	**0**	**0**	**2**	**0**	**0**	**81390**	**4112**	**1118**	**5.1**	**27.2**
Pct. (%)	**0.8**	**75**	**19**	**0.4**	**2.8**	**0.5**	**0**	**0.5**	**0.9**	**0**	**0**	**0**	**0**	**0**	**0**					

Short Term Station 1390196

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		-7.74					
2014	35900		1812	5.05	8.05	50.64	
2013	38910		1210	3.11			
2012	39050		1214	3.11			
2011	36780						
2010	37310						
2009							
2008	40070						
2007	40700						
2006	39940						
2005	52000						

About Station 1390313

Station ID	**1390313**	
County	Hall	
City		
Road		
Road functional class	urban - Principal Arterial - Other	
Description		
Routes	Route Number	0053CO
	Concurrent Route Number	
	Concurrent Route 2	
	Concurrent Route 3	
LRS Section ID	13910053CO @ 0.000 Miles	
Traffic Segment	0 0.000 to 0.000 Miles	
Coordinate (Lat/Lon)	34.294000, -83.835100	
Map Reference		
Camera ID		

Volume

2015	-	
2014	18100	Est. from last year
2013	18060	1 - 6 days
2012	16780	Est. from last year
2011	17000	1 - 6 days
2010	15090	Est. from last year
2009	-	
2008	19330	Est. from last year
2007	19630	Est. from last year
2006	17070	1 - 6 days
2005	18760	1 - 6 days
2004	22460	1 - 6 days
2003	18780	1 - 6 days
2002	19636	1 - 6 days
2001	20900	Est. from last year
2000	19100	Est. from last year
1999	17300	1 - 6 days
1998	15500	1 - 6 days

Trucks

2015	-	
2014	1011	Est. from previous years
2013	1011	1 - 6 days

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		3.27					
2014	18100		1011	5.59			
2013	18060		1011	5.6	8	57	
2012	16780						
2011	17000						
2010	15090						
2009							
2008	19330						
2007	19630						
2006	17070						
2005	18760						

	Year	Month	Office Status	Summary	Volume By Hour	Class By Hour	Speed	Turning Movements	
Included	2011	May	Count accepted	Summary | By Day	All | East | West				
	2013	Jun	Count accepted	Summary | By Day	All | East | West	All | East | West	All | East | West		

Short Term Station 1390313

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Survey Details

Survey ID	45902
Survey Type	class
Year / Month	2013 Jun
Project ID	1.389E+12
Device ID	
Survey Duration	2 Days 0 hours
Notes	
Technician	
Survey Status (Office)	

Short Term Station 1390313

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Daily Volumes

	day	E, 1	E, 2	W, 1	W, 2	Total	Dir Split	Actual hours
06/04/2013	Tue	4501	0	4042	0	8543	52.7 %	0
06/05/2013	Wed	9554	0	9851	0	19405	49.2 %	0
06/06/2013	Thu	5255	0	5774	0	11029	47.6 %	0
Total		**19310**	**0**	**19667**	**0**	**38977**		
Days		**2**	**0**	**2**	**0**	**0**		
ADT		**9655**		**9834**				

Short Term Station 1390313

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Volume By Hour

Direction: All Directions

Time	Tue Jun 04	Wed Jun 05	Thu Jun 06	Total	Avg	Pct
12:00 am		131	112	243	122	0.62
1:00 am		77	71	148	74	0.38
2:00 am		72	75	147	74	0.38
3:00 am		60	66	126	63	0.32
4:00 am		105	113	218	109	0.56
5:00 am		273	277	550	275	1.41
6:00 am		724	694	1418	709	3.64
7:00 am		1027	1051	2078	1039	5.33
8:00 am		1072	1066	2138	1069	5.49
9:00 am		947	1017	1964	982	5.04
10:00 am		1086	1051	2137	1068	5.48
11:00 am		1305	1225	2530	1265	6.49
12:00 pm		1364	1475	2839	1420	7.28
1:00 pm		1452	1354	2806	1403	7.2
2:00 pm		1336	1382	2718	1359	6.97
3:00 pm	1456	1473		2929	1464	7.51
4:00 pm	1482	1491		2973	1486	7.63
5:00 pm	1628	1545		3173	1586	8.14
6:00 pm	1232	1225		2457	1228	6.3
7:00 pm	860	906		1766	883	4.53
8:00 pm	733	707		1440	720	3.69
9:00 pm	559	499		1058	529	2.71
10:00 pm	391	314		705	352	1.81
11:00 pm	202	214		416	208	1.07
Total	**8543**	**19405**	**11029**	**38977**	**19488**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390313

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Volume By Hour

Direction: East

Time	Tue Jun 04	Wed Jun 05	Thu Jun 06	Total	Avg	Pct
12:00 am		83	54	137	68	0.71
1:00 am		39	45	84	42	0.44
2:00 am		39	38	77	38	0.4
3:00 am		34	38	72	36	0.37
4:00 am		40	41	81	40	0.42
5:00 am		90	92	182	91	0.94
6:00 am		208	201	409	204	2.12
7:00 am		351	340	691	346	3.58
8:00 am		475	493	968	484	5.01
9:00 am		471	534	1005	502	5.2
10:00 am		583	555	1138	569	5.89
11:00 am		734	722	1456	728	7.54
12:00 pm		714	754	1468	734	7.6
1:00 pm		654	674	1328	664	6.88
2:00 pm		657	674	1331	666	6.89
3:00 pm	741	738		1479	740	7.66
4:00 pm	859	831		1690	845	8.75
5:00 pm	931	868		1799	900	9.32
6:00 pm	662	671		1333	666	6.9
7:00 pm	435	438		873	436	4.52
8:00 pm	341	346		687	344	3.56
9:00 pm	239	244		483	242	2.5
10:00 pm	181	143		324	162	1.68
11:00 pm	112	103		215	108	1.11
Total	**4501**	**9554**	**5255**	**19310**	**9655**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390313

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Volume By Hour

Direction: West

Time	Tue Jun 04	Wed Jun 05	Thu Jun 06	Total	Avg	Pct
12:00 am		48	58	106	53	0.54
1:00 am		38	26	64	32	0.33
2:00 am		33	37	70	35	0.36
3:00 am		26	28	54	27	0.27
4:00 am		65	72	137	68	0.7
5:00 am		183	185	368	184	1.87
6:00 am		516	493	1009	504	5.13
7:00 am		676	711	1387	694	7.05
8:00 am		597	573	1170	585	5.95
9:00 am		476	483	959	480	4.88
10:00 am		503	496	999	500	5.08
11:00 am		571	503	1074	537	5.46
12:00 pm		650	721	1371	686	6.97
1:00 pm		798	680	1478	739	7.52
2:00 pm		679	708	1387	694	7.05
3:00 pm	715	735		1450	725	7.37
4:00 pm	623	660		1283	642	6.52
5:00 pm	697	677		1374	687	6.99
6:00 pm	570	554		1124	562	5.72
7:00 pm	425	468		893	446	4.54
8:00 pm	392	361		753	376	3.83
9:00 pm	320	255		575	288	2.92
10:00 pm	210	171		381	190	1.94
11:00 pm	90	111		201	100	1.02
Total	**4042**	**9851**	**5774**	**19667**	**9833**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390313

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Class By Hour

Direction: All Directions

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Vol	Trucks	CU	% Tr	% CU
Tuesday Jun 04, 2013																				
15:00 PM	6	1078	303	6	41	4	1	6	11	0	0	0	0	0	0	1456	69	17	4.7	24.6
16:00 PM	4	1151	275	6	24	5	0	6	8	1	0	0	2	0	0	1482	52	17	3.5	32.7
17:00 PM	9	1256	311	2	29	3	1	5	12	0	0	0	0	0	0	1628	52	17	3.2	32.7
18:00 PM	5	960	208	1	33	0	0	7	16	0	0	0	2	0	0	1232	59	25	4.8	42.4
19:00 PM	4	711	114	1	19	1	0	0	9	1	0	0	0	0	0	860	31	10	3.6	32.3
20:00 PM	3	583	117	0	19	1	0	1	8	1	0	0	0	0	0	733	30	10	4.1	33.3
21:00 PM	3	440	97	0	12	0	0	1	6	0	0	0	0	0	0	559	19	7	3.4	36.8
22:00 PM	4	294	68	0	8	1	0	1	14	0	0	0	1	0	0	391	25	16	6.4	64
23:00 PM	4	151	33	0	3	0	0	0	11	0	0	0	0	0	0	202	14	11	6.9	78.6
Daily Total	42	6624	1526	16	188	15	2	27	95	3	0	0	5	0	0	8543	351	130	4.1	37
Wednesday Jun 05, 2013																				
00:00 AM	2	107	13	0	2	0	0	0	7	0	0	0	0	0	0	131	9	7	6.9	77.8
01:00 AM	1	53	9	1	2	0	0	0	11	0	0	0	0	0	0	77	14	11	18.2	78.6
02:00 AM	0	47	11	0	2	2	0	1	9	0	0	0	0	0	0	72	14	10	19.4	71.4
03:00 AM	0	39	12	2	0	1	0	0	6	0	0	0	0	0	0	60	9	6	15	66.7
04:00 AM	0	57	27	0	1	2	0	0	18	0	0	0	0	0	0	105	21	18	20	85.7
05:00 AM	1	192	55	2	8	0	0	2	13	0	0	0	0	0	0	273	25	15	9.2	60
06:00 AM	2	485	195	4	17	2	0	2	16	1	0	0	0	0	0	724	42	19	5.8	45.2
07:00 AM	4	684	269	5	41	3	0	5	15	1	0	0	0	0	0	1027	70	21	6.8	30
08:00 AM	6	738	251	5	33	10	0	11	18	0	0	0	0	0	0	1072	77	29	7.2	37.7
09:00 AM	0	625	241	15	27	12	0	6	20	0	0	0	1	0	0	947	81	27	8.6	33.3
10:00 AM	0	763	248	10	28	8	4	8	15	1	0	0	1	0	0	1086	75	25	6.9	33.3
11:00 AM	5	906	317	8	33	6	2	9	16	2	0	0	1	0	0	1305	77	28	5.9	36.4
12:00 PM	1	995	298	7	39	10	0	2	10	2	0	0	0	0	0	1364	70	14	5.1	20
13:00 PM	2	1059	316	5	37	8	2	9	11	3	0	0	0	0	0	1452	75	23	5.2	30.7
14:00 PM	2	1051	211	5	32	8	5	12	10	0	0	0	0	0	0	1336	72	22	5.4	30.6
15:00 PM	3	1164	243	2	31	4	3	7	14	1	0	0	1	0	0	1473	63	23	4.3	36.5
16:00 PM	4	1150	281	5	27	8	0	6	9	0	0	0	1	0	0	1491	56	16	3.8	28.6
17:00 PM	6	1213	281	5	25	5	1	0	7	1	0	0	1	0	0	1545	45	9	2.9	20
18:00 PM	4	930	242	2	24	5	2	4	9	2	0	0	1	0	0	1225	49	16	4	32.7
19:00 PM	2	675	179	2	24	0	0	5	17	2	0	0	0	0	0	906	50	24	5.5	48
20:00 PM	2	547	127	0	16	0	1	0	13	0	0	0	1	0	0	707	31	14	4.4	45.2
21:00 PM	1	393	88	1	11	0	0	1	4	0	0	0	0	0	0	499	17	5	3.4	29.4
22:00 PM	0	232	63	1	1	0	0	3	14	0	0	0	0	0	0	314	19	17	6.1	89.5
23:00 PM	1	164	27	0	5	2	0	0	15	0	0	0	0	0	0	214	22	15	10.3	68.2
Daily Total	49	20893	5530	103	654	111	22	120	392	19	0	0	13	0	0	19405	1083	414	5.6	38.2
Thursday Jun 06, 2013																				
00:00 AM	1	81	18	0	0	0	0	1	11	0	0	0	0	0	0	112	12	12	10.7	100
01:00 AM	0	41	15	1	1	0	0	0	13	0	0	0	0	0	0	71	15	13	21.1	86.7
02:00 AM	0	59	8	0	1	0	0	0	7	0	0	0	0	0	0	75	8	7	10.7	87.5
03:00 AM	0	35	13	2	1	1	0	1	13	0	0	0	0	0	0	66	18	14	27.3	77.8
04:00 AM	0	63	30	0	6	2	0	0	12	0	0	0	0	0	0	113	20	12	17.7	60
05:00 AM	1	178	73	0	9	2	0	0	14	0	0	0	0	0	0	277	25	14	9	56
06:00 AM	0	483	173	1	13	3	0	1	20	0	0	0	0	0	0	694	38	21	5.5	55.3
07:00 AM	2	743	244	8	36	3	0	6	9	0	0	0	0	0	0	1051	62	15	5.9	24.2
08:00 AM	3	761	222	5	38	2	1	12	20	2	0	0	0	0	0	1066	80	34	7.5	42.5
09:00 AM	1	649	274	12	41	8	0	12	20	0	0	0	0	0	0	1017	93	32	9.1	34.4
10:00 AM	1	687	287	7	37	5	0	7	19	1	0	0	0	0	0	1051	76	27	7.2	35.5
11:00 AM	5	830	290	10	48	5	0	10	25	2	0	0	0	0	0	1225	100	37	8.2	37
12:00 PM	0	1071	347	4	26	4	0	6	17	0	0	0	0	0	0	1475	57	23	3.9	40.4
13:00 PM	1	994	299	5	32	5	1	5	11	1	0	0	0	0	0	1354	60	17	4.4	28.3
14:00 PM	3	1017	279	3	49	5	1	8	17	0	0	0	0	0	0	1382	83	25	6	30.1
Overall Total	**109**	**28585**	**8102**	**161**	**992**	**156**	**25**	**189**	**620**	**25**	**0**	**0**	**13**	**0**	**0**	**38977**	**2181**	**847**	**5.6**	**38.8**
Pct. (%)	**0.3**	**73**	**21**	**0.4**	**2.5**	**0.4**	**0.1**	**0.5**	**1.6**	**0.1**	**0**	**0**	**0**	**0**	**0**					

Short Term Station 1390313

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		0.22					
2014	18100		1011	5.59			
2013	18060		1011	5.6	8	57	
2012	16780						
2011	17000						
2010	15090						
2009							
2008	19330						
2007	19630						
2006	17070						
2005	18760						

About Station 1390312

Station ID	**1390312**	
County	Hall	
City		
Road		
Road functional class	urban - Principal Arterial - Other	
Description		
Routes	Route Number	6000
	Concurrent Route Number	
	Concurrent Route 2	
	Concurrent Route 3	
LRS Section ID	1391006000 @ 0.000 Miles	
Traffic Segment	0 0.000 to 0.000 Miles	
Coordinate (Lat/Lon)	34.288700, -83.828000	
Map Reference		
Camera ID		

Volume

2015	-	
2014	16100	Est. from last year
2013	16120	1 - 6 days
2012	14510	Est. from last year
2011	14700	1 - 6 days
2010	14410	1 - 6 days
2009	27760	Est. from last year
2008	27280	1 - 6 days
2007	27710	Est. from last year
2006	27710	Est. from last year
2005	28860	Est. from last year
2004	28570	Est. from last year
2003	28070	1 - 6 days
2002	31412	Est. from last year
2001	30700	Est. from last year
2000	29700	1 - 6 days
1999	38900	Est. from last year
1998	24500	1 - 6 days
1997	20000	1 - 6 days
1996	19600	1 - 6 days
1995	19600	1 - 6 days
1994	16500	1 - 6 days
1993	17800	1 - 6 days
1992	16584	1 - 6 days
1991	16983	1 - 6 days
1990	14699	1 - 6 days

Trucks

2015	-	
2014	819	Est. from previous years
2013	819	1 - 6 days
2012	-	
2011	889	1 - 6 days
2010	1101	1 - 6 days

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		-2.41					
2014	16100		819	5.09			
2013	16120		819	5.08	8	53	
2012	14510						
2011	14700		889	6.05			
2010	14410		1101	7.64			
2009	27760						
2008	27280						
2007	27710						
2006	27710						
2005	28860						

	Year	Month	Office Status	Summary	Volume By Hour	Class By Hour	Speed	Turning Movements	
	2011	Sep	Count accepted	Summary | By Day	All | East | West	All | East | West	All | East | West		
Included	2013	Jun	Count accepted	Summary | By Day	All | East | West	All | East | West	All | East | West		

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Survey Details

Survey ID	45901
Survey Type	class
Year / Month	2013 Jun
Project ID	1.389E+12
Device ID	
Survey Duration	2 Days 0 hours
Notes	
Technician	
Survey Status (Office)	

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Daily Volumes

	day	E, 1	E, 2	W, 1	W, 2	Total	Dir Split	Actual hours
06/24/2013	Mon	5148	0	5150	0	10298	50.0 %	0
06/25/2013	Tue	8396	0	8497	0	16893	49.7 %	0
06/26/2013	Wed	3313	0	3537	0	6850	48.4 %	0
Total		**16857**	**0**	**17184**	**0**	**34041**		
Days		**2**	**0**	**2**	**0**	**0**		
ADT		**8428**		**8592**				

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: All Directions

Time	Mon Jun 24	Tue Jun 25	Wed Jun 26	Total	Avg	Pct
12:00 am		170	172	342	171	1
1:00 am		118	114	232	116	0.68
2:00 am		110	107	217	108	0.64
3:00 am		83	94	177	88	0.52
4:00 am		160	142	302	151	0.89
5:00 am		365	344	709	354	2.08
6:00 am		721	724	1445	722	4.24
7:00 am		1114	1116	2230	1115	6.55
8:00 am		1015	1049	2064	1032	6.06
9:00 am		898	962	1860	930	5.46
10:00 am		864	948	1812	906	5.32
11:00 am		1083	1078	2161	1080	6.35
12:00 pm	1151	1240		2391	1196	7.02
1:00 pm	1140	1128		2268	1134	6.66
2:00 pm	1057	1082		2139	1070	6.28
3:00 pm	1195	1172		2367	1184	6.95
4:00 pm	1305	1297		2602	1301	7.64
5:00 pm	1334	1244		2578	1289	7.57
6:00 pm	879	869		1748	874	5.13
7:00 pm	691	642		1333	666	3.92
8:00 pm	525	508		1033	516	3.03
9:00 pm	441	443		884	442	2.6
10:00 pm	353	326		679	340	1.99
11:00 pm	227	241		468	234	1.37
Total	**10298**	**16893**	**6850**	**34041**	**17020**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: East

Time	Mon Jun 24	Tue Jun 25	Wed Jun 26	Total	Avg	Pct
12:00 am		91	89	180	90	1.07
1:00 am		75	68	143	72	0.85
2:00 am		69	61	130	65	0.77
3:00 am		48	55	103	52	0.61
4:00 am		56	45	101	50	0.6
5:00 am		139	129	268	134	1.59
6:00 am		218	238	456	228	2.71
7:00 am		485	471	956	478	5.67
8:00 am		614	599	1213	606	7.2
9:00 am		510	486	996	498	5.91
10:00 am		450	493	943	472	5.59
11:00 am		610	579	1189	594	7.05
12:00 pm	608	627		1235	618	7.33
1:00 pm	524	521		1045	522	6.2
2:00 pm	522	502		1024	512	6.07
3:00 pm	602	629		1231	616	7.3
4:00 pm	706	672		1378	689	8.17
5:00 pm	672	624		1296	648	7.69
6:00 pm	454	431		885	442	5.25
7:00 pm	342	320		662	331	3.93
8:00 pm	245	232		477	238	2.83
9:00 pm	191	207		398	199	2.36
10:00 pm	149	147		296	148	1.76
11:00 pm	133	119		252	126	1.49
Total	**5148**	**8396**	**3313**	**16857**	**8428**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: West

Time	Mon Jun 24	Tue Jun 25	Wed Jun 26	Total	Avg	Pct
12:00 am		79	83	162	81	0.94
1:00 am		43	46	89	44	0.52
2:00 am		41	46	87	44	0.51
3:00 am		35	39	74	37	0.43
4:00 am		104	97	201	100	1.17
5:00 am		226	215	441	220	2.57
6:00 am		503	486	989	494	5.76
7:00 am		629	645	1274	637	7.41
8:00 am		401	450	851	426	4.95
9:00 am		388	476	864	432	5.03
10:00 am		414	455	869	434	5.06
11:00 am		473	499	972	486	5.66
12:00 pm	543	613		1156	578	6.73
1:00 pm	616	607		1223	612	7.12
2:00 pm	535	580		1115	558	6.49
3:00 pm	593	543		1136	568	6.61
4:00 pm	599	625		1224	612	7.12
5:00 pm	662	620		1282	641	7.46
6:00 pm	425	438		863	432	5.02
7:00 pm	349	322		671	336	3.9
8:00 pm	280	276		556	278	3.24
9:00 pm	250	236		486	243	2.83
10:00 pm	204	179		383	192	2.23
11:00 pm	94	122		216	108	1.26
Total	**5150**	**8497**	**3537**	**17184**	**8592**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Class By Hour

Direction: All Directions

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Vol	Trucks	CU	% Tr	% CU
Monday Jun 24, 2013																				
12:00 PM	7	869	231	2	21	9	0	3	7	1	0	0	1	0	0	1151	44	12	3.8	27.3
13:00 PM	7	856	205	11	23	16	3	5	10	2	0	0	2	0	0	1140	72	19	6.3	26.4
14:00 PM	18	778	198	9	31	8	0	7	7	0	0	0	1	0	0	1057	63	15	6	23.8
15:00 PM	11	911	218	6	27	14	0	4	4	0	0	0	0	0	0	1195	55	8	4.6	14.5
16:00 PM	7	1025	228	1	29	5	1	2	6	1	0	0	0	0	0	1305	45	9	3.4	20
17:00 PM	16	1030	254	1	15	8	0	1	8	0	0	0	1	0	0	1334	34	10	2.5	29.4
18:00 PM	5	697	152	1	12	5	0	2	5	0	0	0	0	0	0	879	25	7	2.8	28
19:00 PM	3	550	115	0	14	1	0	0	7	0	0	0	1	0	0	691	23	8	3.3	34.8
20:00 PM	2	422	78	1	10	4	0	0	8	0	0	0	0	0	0	525	23	8	4.4	34.8
21:00 PM	2	370	57	0	6	1	0	2	3	0	0	0	0	0	0	441	12	5	2.7	41.7
22:00 PM	4	286	55	1	0	0	0	3	4	0	0	0	0	0	0	353	8	7	2.3	87.5
23:00 PM	1	185	29	1	2	1	0	1	7	0	0	0	0	0	0	227	12	8	5.3	66.7
Daily Total	83	7979	1820	34	190	72	4	30	76	4	0	0	6	0	0	10298	416	116	4	27.9
Tuesday Jun 25, 2013																				
00:00 AM	2	144	16	0	1	0	0	0	6	1	0	0	0	0	0	170	8	7	4.7	87.5
01:00 AM	1	91	15	0	1	0	0	1	9	0	0	0	0	0	0	118	11	10	9.3	90.9
02:00 AM	1	79	19	0	0	2	0	1	8	0	0	0	0	0	0	110	11	9	10	81.8
03:00 AM	1	66	8	1	0	1	0	1	5	0	0	0	0	0	0	83	8	6	9.6	75
04:00 AM	2	128	24	0	1	0	0	0	5	0	0	0	0	0	0	160	6	5	3.8	83.3
05:00 AM	0	270	65	1	9	5	0	0	15	0	0	0	0	0	0	365	30	15	8.2	50
06:00 AM	9	518	160	4	10	8	0	2	10	0	0	0	0	0	0	721	34	12	4.7	35.3
07:00 AM	7	835	203	6	36	12	0	3	9	3	0	0	0	0	0	1114	69	15	6.2	21.7
08:00 AM	5	758	190	6	23	13	0	4	15	0	0	0	1	0	0	1015	62	20	6.1	32.3
09:00 AM	8	662	166	8	24	16	0	3	8	1	0	0	2	0	0	898	62	14	6.9	22.6
10:00 AM	9	598	182	10	27	18	0	7	13	0	0	0	0	0	0	864	75	20	8.7	26.7
11:00 AM	8	806	201	4	25	18	0	5	15	0	0	0	1	0	0	1083	68	21	6.3	30.9
12:00 PM	7	932	248	5	23	10	0	4	9	1	0	0	1	0	0	1240	53	15	4.3	28.3
13:00 PM	8	855	206	7	29	11	1	2	7	2	0	0	0	0	0	1128	59	11	5.2	18.6
14:00 PM	10	818	192	5	31	13	0	4	6	0	1	0	2	0	0	1082	62	13	5.7	21
15:00 PM	9	894	209	2	31	10	0	8	7	1	0	0	1	0	0	1172	60	17	5.1	28.3
16:00 PM	8	991	247	3	27	5	2	4	9	1	0	0	0	0	0	1297	51	14	3.9	27.5
17:00 PM	15	991	201	2	17	7	1	1	8	1	0	0	0	0	0	1244	37	10	3	27
18:00 PM	4	719	127	2	8	1	0	1	7	0	0	0	0	0	0	869	19	8	2.2	42.1
19:00 PM	3	517	100	2	10	4	0	2	3	1	0	0	0	0	0	642	22	6	3.4	27.3
20:00 PM	3	422	73	0	4	1	0	0	5	0	0	0	0	0	0	508	10	5	2	50
21:00 PM	3	369	54	1	12	0	1	0	3	0	0	0	0	0	0	443	17	3	3.8	17.6
22:00 PM	3	268	42	2	6	0	0	2	3	0	0	0	0	0	0	326	13	5	4	38.5
23:00 PM	2	199	31	0	1	1	0	1	5	1	0	0	0	0	0	241	9	7	3.7	77.8
Daily Total	128	20909	4799	105	546	228	9	86	266	17	1	0	14	0	0	16893	856	268	5.1	31.3
Wednesday Jun 26, 2013																				
00:00 AM	2	134	21	1	2	0	0	0	12	0	0	0	0	0	0	172	15	12	8.7	80
01:00 AM	0	87	20	0	1	0	0	0	6	0	0	0	0	0	0	114	7	6	6.1	85.7
02:00 AM	0	88	15	0	0	0	0	0	4	0	0	0	0	0	0	107	4	4	3.7	100
03:00 AM	0	77	11	0	0	0	0	0	6	0	0	0	0	0	0	94	6	6	6.4	100
04:00 AM	2	99	31	0	1	2	0	0	7	0	0	0	0	0	0	142	10	7	7	70
05:00 AM	2	253	65	2	7	2	0	2	11	0	0	0	0	0	0	344	24	13	7	54.2
06:00 AM	4	520	161	2	20	2	0	1	12	2	0	0	0	0	0	724	39	15	5.4	38.5
07:00 AM	5	845	203	4	30	14	0	7	6	1	0	0	1	0	0	1116	63	15	5.6	23.8
08:00 AM	11	776	183	8	34	14	0	6	15	0	0	0	2	0	0	1049	79	23	7.5	29.1
09:00 AM	6	707	179	9	26	13	0	7	14	1	0	0	0	0	0	962	70	22	7.3	31.4
10:00 AM	12	676	186	10	26	21	0	5	11	1	0	0	0	0	0	948	74	17	7.8	23
11:00 AM	11	822	179	7	29	10	0	8	12	0	0	0	0	0	0	1078	66	20	6.1	30.3
Overall Total	**266**	**25993**	**6053**	**148**	**722**	**306**	**9**	**122**	**382**	**22**	**1**	**0**	**17**	**0**	**0**	**34041**	**1729**	**544**	**5.1**	**31.5**
Pct. (%)	**0.8**	**76**	**18**	**0.4**	**2.1**	**0.9**	**0**	**0.4**	**1.1**	**0.1**	**0**	**0**	**0**	**0**	**0**					

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		-0.12					
2014	16100		819	5.09			
2013	16120		819	5.08	8	53	
2012	14510						
2011	14700		889	6.05			
2010	14410		1101	7.64			
2009	27760						
2008	27280						
2007	27710						
2006	27710						
2005	28860						

Appendix C
Truck Factor Calculations

Original Table 6 from Report
Study T Factors By Approach and Facility: Peak Hours

Location	AM			Mid			PM		
	T	SU	CU	T	SU	CU	T	SU	CU
Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	7.1%	5.7%	1.4%	4.7%	3.8%	1.0%	4.2%	3.4%	0.9%
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	4.1%	3.1%	1.0%	2.7%	2.1%	0.6%	2.2%	1.8%	0.4%
Average for Jesse Jewell Pkwy	**5.6%**	**4.4%**	**1.2%**	**3.7%**	**2.9%**	**0.8%**	**3.2%**	**2.6%**	**0.7%**
John Morrow Pkwy west of Jesse Jewell Pkwy	6.4%	4.6%	1.7%	4.5%	3.2%	1.3%	3.6%	2.5%	1.1%
Queen City Pkwy east of Jesse Jewell Pkwy	5.9%	4.6%	1.3%	4.1%	2.9%	1.1%	3.7%	2.8%	0.9%
Average for John Morrow Pkwy/Queen City Pkwy	**6.1%**	**4.6%**	**1.5%**	**4.3%**	**3.0%**	**1.2%**	**3.7%**	**2.7%**	**1.0%**

Date of Count	Updated Needed?
May-14	No
Jul-14	Potential Update
Jun-13	Potential Update
Jun-13	Potential Update

Original Table 7 From Report
Study 24 HR T Factors By Approach and Facility: ADT

Location	24 T	SU	CU
Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	5.1%	3.7%	1.4%
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	3.1%	2.2%	0.9%
Average for Jesse Jewell Pkwy	**4.1%**	**2.9%**	**1.1%**
John Morrow Pkwy west of Jesse Jewell Pkwy	5.6%	3.4%	2.2%
Queen City Pkwy east of Jesse Jewell Pkwy	5.1%	3.5%	1.6%
Average for John Morrow Pkwy/Queen City Pkwy	**5.3%**	**3.4%**	**1.9%**

Date of Count	Updated Needed?
May-14	No
Jul-14	Potential Update
Jun-13	Potential Update
Jun-13	Potential Update

Volume weighted Average

Study T Factors By Approach and Facility: Peak Hours									
Location	AM			Mid			PM		
	T	SU	CU	T	SU	CU	T	SU	CU
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	-7391.31	-6991.37	-8633.88	-21004.64	-24714.04	-7086.01	-14376.58	-17395.99	-2082.15
John Morrow Pkwy west of Jesse Jewell Pkwy	-1684.27	-1140.96	-3129.87	-7757.72	-4922.79	-14650.02	-5925.98	-3269.57	-11962.57
Average Percentage	-18.2%	-16.3%	-23.6%	-57.6%	-59.4%	-43.5%	-40.7%	-41.4%	-28.1%
Adjusted Queen City	**7.0%**	**5.3%**	**1.7%**	**6.4%**	**4.7%**	**1.6%**	**5.2%**	**4.0%**	**1.1%**

Study 24 HR T Factors By Approach and Facility: ADT			
Location	24 T	SU	CU
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	-13768.4	-18693.8	-2347.0
John Morrow Pkwy west of Jesse Jewell Pkwy	-3568.4	-2155.8	-5900.8
Average Percentage	-31.5%	-37.9%	-15.0%
Adjusted Queen City	**6.6%**	**4.8%**	**1.8%**

Comparison

Study T Factors By Approach and Facility: Peak Hours

Location	AM			Mid			PM			
	T	SU	CU	T	SU	CU	T	SU	CU	
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	4.1%	3.1%	1.0%	2.7%	2.1%	0.6%	2.2%	1.8%	0.4%	Jul-14
Jesse Jewell Parkway south of John Morrow Parkway/Queen City Parkway (north of Pearl Nix Road)	5.1%	3.8%	1.3%	4.5%	3.8%	0.7%	3.3%	2.8%	0.5%	Sep-11
Difference	-1.0%	-0.7%	-0.3%	-1.8%	-1.7%	-0.1%	-1.1%	-1.0%	-0.1%	
Truck Rate Comparison	-24.2%	-22.9%	-28.3%	-68.8%	-81.0%	-23.2%	-47.1%	-57.0%	-6.8%	
John Morrow Pkwy west of Jesse Jewell Pkwy	6.4%	4.6%	1.7%	4.5%	3.2%	1.3%	3.6%	2.5%	1.1%	Jun-13
John Marrow Parkway west of Jesse Jewell Parkway (near Atlanta Highway)	6.9%	4.9%	2.0%	6.3%	4.0%	2.3%	4.7%	2.9%	1.8%	Jan-14
Difference	-0.6%	-0.3%	-0.3%	-1.8%	-0.8%	-1.0%	-1.1%	-0.4%	-0.7%	
Truck Rate Comparison	-8.7%	-5.9%	-16.1%	-40.0%	-25.4%	-75.5%	-30.5%	-16.9%	-61.7%	

Study 24 HR T Factors By Approach and Facility: ADT

Location	24 T	SU	CU	
Queen City Pkwy east of Jesse Jewell Pkwy	3.1%	2.2%	0.9%	Jul-14
Morrow Parkway/Queen City Parkway (north of Pearl Nix Road)	4.3%	3.4%	1.0%	Sep-11
Difference	-1.2%	-1.2%	-0.1%	
Truck Rate Comparison	**-38.7%**	**-52.5%**	**-6.6%**	
John Morrow Pkwy west of Jesse Jewell Pkwy	5.6%	3.4%	2.2%	Jun-13
John Marrow Parkway west of Jesse Jewell Parkway (near Atlanta Highway)	6.6%	3.8%	2.8%	Jan-14
Difference	-1.0%	-0.4%	-0.7%	
Truck Rate Comparison	**-18.4%**	**-11.1%**	**-30.4%**	

Table 6 (New Information)

Study T Factors By Approach and Facility: Peak Hours

Location	AM			Mid			PM		
	T	SU	CU	T	SU	CU	T	SU	CU
Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	7.1%	5.7%	1.4%	4.7%	3.8%	1.0%	4.2%	3.4%	0.9%
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	5.1%	3.8%	1.3%	4.5%	3.8%	0.7%	3.3%	2.8%	0.5%
Average for Jesse Jewell Pkwy	**6.1%**	**4.7%**	**1.4%**	**4.6%**	**3.8%**	**0.8%**	**3.8%**	**3.1%**	**0.7%**
John Morrow Pkwy west of Jesse Jewell Pkwy	6.9%	4.9%	2.0%	6.3%	4.0%	2.3%	4.7%	2.9%	1.8%
Queen City Pkwy east of Jesse Jewell Pkwy	7.0%	5.3%	1.7%	6.4%	4.7%	1.6%	5.2%	4.0%	1.1%
Average for John Morrow Pkwy/Queen City Pkwy	**6.9%**	**5.1%**	**1.8%**	**6.3%**	**4.3%**	**2.0%**	**5.0%**	**3.5%**	**1.5%**
	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok

Table 7 (New Information)

Study 24 HR T Factors By Approach and Facility: ADT

Location	24 T	SU	CU	Date of Count
Jesse Jewell Pkwy north of John Morrow Pkwy/Queen City Pkwy	5.1%	3.7%	1.4%	May-14
Jesse Jewell Pkwy south of John Morrow Pkwy/Queen City Pkwy	4.3%	3.4%	1.0%	Sep-11
Average for Jesse Jewell Pkwy	**4.7%**	**3.5%**	**1.2%**	
John Morrow Pkwy west of Jesse Jewell Pkwy	6.6%	3.8%	2.8%	Jan-14
Queen City Pkwy east of Jesse Jewell Pkwy	6.6%	4.8%	1.8%	June 2013 Modified
Average for John Morrow Pkwy/Queen City Pkwy	**6.6%**	**4.3%**	**2.3%**	

About Station 1390194

Station ID	**1390194**	
County	Hall	
City		
Road		
Road functional class	urban - Principal Arterial - Other	
Description		
Routes	Route Number	36900
	Concurrent Route Number	
	Concurrent Route 2	
	Concurrent Route 3	
LRS Section ID	1391036900 @ 0.000 Miles	
Traffic Segment	0 0.000 to 0.000 Miles	
Coordinate (Lat/Lon)	34.291200, -83.831300	
Map Reference		
Camera ID		

Volume

2015	-	
2014	28100	1 - 6 days
2013	27300	Est. from last year
2012	27400	1 - 6 days
2011	28230	Est. from last year
2010	28630	1 - 6 days
2009	31700	Est. from last year
2008	31160	1 - 6 days
2007	32810	Est. from last year
2006	29260	1 - 6 days
2005	31350	1 - 6 days
2004	36800	1 - 6 days
2003	33160	1 - 6 days
2002	34990	1 - 6 days
2001	62300	1 - 6 days
2000	46400	Est. from last year
1999	45800	Est. from last year
1998	44000	Est. from last year
1997	39600	1 - 6 days
1996	46400	1 - 6 days
1995	40200	1 - 6 days
1994	37700	1 - 6 days
1993	35500	1 - 6 days
1992	32866	1 - 6 days
1991	33318	1 - 6 days
1990	34156	1 - 6 days

Trucks

2015	-	
2014	879	Est. from last year
2013	1365	Est. from last year

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		3.27					
2014	28100		879	3.13	8.42	51.99	
2013	27300		1365	5			
2012	27400						
2011	28230						
2010	28630						
2009	31700						
2008	31160						
2007	32810						
2006	29260						
2005	31350						

	Year	Month	Office Status	Summary	Volume By Hour	Class By Hour	Speed	Turning Movements	
	2010	Feb	Count accepted	Summary | By Day	All | North | South				
	2012	Feb	Count accepted	Summary | By Day	All | North | South				
Included	2014	Jul	Count accepted	Summary | By Day	All | North | South	All | North | South	All | North | South		

Short Term Station 1390194

Georgia DOT

In Hall County
Located on 036900
LRS ID: 1391036900

Survey Details

Survey ID	6933
Survey Type	class
Year / Month	2014 Jul
Project ID	1.389E+12
Device ID	
Survey Duration	2 Days 0 hours
Notes	
Technician	sts
Survey Status (Office)	

Short Term Station 1390194

Georgia DOT

In Hall County
Located on 036900
LRS ID: 1391036900

Daily Volumes

	day	N, 1	N, 2	S, 1	S, 2	Total	Dir Split	Actual hours
07/08/2014	Tue	11758	0	11583	0	23341	50.4 %	0
07/09/2014	Wed	15201	0	15364	0	30565	49.7 %	0
07/10/2014	Thu	3449	0	3709	0	7158	48.2 %	0
Total		**30408**	**0**	**30656**	**0**	**61064**		
Days		**2**	**0**	**2**	**0**	**0**		
ADT		**15204**		**15328**				

Short Term Station 1390194

Georgia DOT

In Hall County
Located on 036900
LRS ID: 1391036900

Volume By Hour

Direction: All Directions

Time	Tue Jul 08	Wed Jul 09	Thu Jul 10	Total	Avg	Pct
12:00 am		165	193	358	179	0.59
1:00 am		126	145	271	136	0.44
2:00 am		109	87	196	98	0.32
3:00 am		128	136	264	132	0.43
4:00 am		179	190	369	184	0.6
5:00 am		445	489	934	467	1.53
6:00 am		1061	1022	2083	1042	3.41
7:00 am		1604	1574	3178	1589	5.2
8:00 am		1741	1679	3420	1710	5.6
9:00 am		1757	1643	3400	1700	5.57
10:00 am	1925	1812		3737	1868	6.12
11:00 am	2064	1996		4060	2030	6.65
12:00 pm	2351	2312		4663	2332	7.64
1:00 pm	2251	2235		4486	2243	7.35
2:00 pm	2165	2130		4295	2148	7.03
3:00 pm	2187	2123		4310	2155	7.06
4:00 pm	2366	2214		4580	2290	7.5
5:00 pm	2229	2202		4431	2216	7.26
6:00 pm	1718	1852		3570	1785	5.85
7:00 pm	1400	1530		2930	1465	4.8
8:00 pm	1042	1169		2211	1106	3.62
9:00 pm	772	836		1608	804	2.63
10:00 pm	560	525		1085	542	1.78
11:00 pm	311	314		625	312	1.02
Total	**23341**	**30565**	**7158**	**61064**	**30532**	
SF	**1.005**	**1.005**	**1.005**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**28286**			**28111**	

Short Term Station 1390194

Georgia DOT

In Hall County
Located on 036900
LRS ID: 1391036900

Volume By Hour

Direction: North

Time	Tue Jul 08	Wed Jul 09	Thu Jul 10	Total	Avg	Pct
12:00 am		93	97	190	95	0.62
1:00 am		56	66	122	61	0.4
2:00 am		46	36	82	41	0.27
3:00 am		60	67	127	64	0.42
4:00 am		72	85	157	78	0.52
5:00 am		174	211	385	192	1.27
6:00 am		495	466	961	480	3.16
7:00 am		746	730	1476	738	4.85
8:00 am		930	905	1835	918	6.03
9:00 am		870	786	1656	828	5.45
10:00 am	920	859		1779	890	5.85
11:00 am	952	929		1881	940	6.19
12:00 pm	1150	1110		2260	1130	7.43
1:00 pm	1175	1158		2333	1166	7.67
2:00 pm	1065	1054		2119	1060	6.97
3:00 pm	1111	1093		2204	1102	7.25
4:00 pm	1136	1125		2261	1130	7.44
5:00 pm	1144	1115		2259	1130	7.43
6:00 pm	938	967		1905	952	6.26
7:00 pm	747	768		1515	758	4.98
8:00 pm	576	622		1198	599	3.94
9:00 pm	397	458		855	428	2.81
10:00 pm	286	253		539	270	1.77
11:00 pm	161	148		309	154	1.02
Total	**11758**	**15201**	**3449**	**30408**	**15204**	
SF	**1.005**	**1.005**	**1.005**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**14067**			**14000**	

Short Term Station 1390194

Georgia DOT

In Hall County
Located on 036900
LRS ID: 1391036900

Volume By Hour

Direction: South

Time	Tue Jul 08	Wed Jul 09	Thu Jul 10	Total	Avg	Pct
12:00 am		72	96	168	84	0.55
1:00 am		70	79	149	74	0.49
2:00 am		63	51	114	57	0.37
3:00 am		68	69	137	68	0.45
4:00 am		107	105	212	106	0.69
5:00 am		271	278	549	274	1.79
6:00 am		566	556	1122	561	3.66
7:00 am		858	844	1702	851	5.55
8:00 am		811	774	1585	792	5.17
9:00 am		887	857	1744	872	5.69
10:00 am	1005	953		1958	979	6.39
11:00 am	1112	1067		2179	1090	7.11
12:00 pm	1201	1202		2403	1202	7.84
1:00 pm	1076	1077		2153	1076	7.02
2:00 pm	1100	1076		2176	1088	7.1
3:00 pm	1076	1030		2106	1053	6.87
4:00 pm	1230	1089		2319	1160	7.56
5:00 pm	1085	1087		2172	1086	7.09
6:00 pm	780	885		1665	832	5.43
7:00 pm	653	762		1415	708	4.62
8:00 pm	466	547		1013	506	3.3
9:00 pm	375	378		753	376	2.46
10:00 pm	274	272		546	273	1.78
11:00 pm	150	166		316	158	1.03
Total	**11583**	**15364**	**3709**	**30656**	**15328**	
SF	**1.005**	**1.005**	**1.005**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**14218**			**14112**	

Short Term Station 1390194

Georgia DOT

In Hall County
Located on 036900
LRS ID: 1391036900

Class By Hour

Direction: All Directions

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Vol	Trucks	CU	% Tr	% CU
Tuesday Jul 08, 2014																				
10:00 AM	5	1564	289	4	32	6	4	10	9	0	0	0	2	0	0	1925	67	21	3.5	31.3
11:00 AM	12	1658	330	0	39	5	2	5	9	2	0	0	2	0	0	2064	64	18	3.1	28.1
12:00 PM	15	1932	341	6	40	5	3	5	4	0	0	0	0	0	0	2351	63	9	2.7	14.3
13:00 PM	17	1856	327	6	32	5	1	4	3	0	0	0	0	0	0	2251	51	7	2.3	13.7
14:00 PM	18	1783	287	7	44	5	2	10	7	1	0	0	1	0	0	2165	77	19	3.6	24.7
15:00 PM	16	1756	354	0	36	3	4	7	8	2	0	0	1	0	0	2187	61	18	2.8	29.5
16:00 PM	18	1955	340	3	32	7	3	3	4	1	0	0	0	0	0	2366	53	8	2.2	15.1
17:00 PM	11	1847	315	0	31	4	1	10	7	2	0	0	1	0	0	2229	56	20	2.5	35.7
18:00 PM	10	1403	258	2	31	3	0	9	1	1	0	0	0	0	0	1718	47	11	2.7	23.4
19:00 PM	9	1139	216	0	20	2	2	0	9	1	0	0	2	0	0	1400	36	12	2.6	33.3
20:00 PM	4	889	121	0	16	1	1	3	7	0	0	0	0	0	0	1042	28	10	2.7	35.7
21:00 PM	5	645	109	0	9	0	0	2	2	0	0	0	0	0	0	772	13	4	1.7	30.8
22:00 PM	3	477	66	0	6	2	0	2	4	0	0	0	0	0	0	560	14	6	2.5	42.9
23:00 PM	1	260	42	0	2	2	0	1	3	0	0	0	0	0	0	311	8	4	2.6	50
Daily Total	144	19164	3395	28	370	50	23	71	77	10	0	0	9	0	0	23341	638	167	2.7	26.2
Wednesday Jul 09, 2014																				
00:00 AM	4	135	22	0	1	1	0	0	2	0	0	0	0	0	0	165	4	2	2.4	50
01:00 AM	1	101	21	0	2	0	0	1	0	0	0	0	0	0	0	126	3	1	2.4	33.3
02:00 AM	0	86	12	1	2	1	0	2	5	0	0	0	0	0	0	109	11	7	10.1	63.6
03:00 AM	0	94	19	0	4	0	0	1	10	0	0	0	0	0	0	128	15	11	11.7	73.3
04:00 AM	1	148	20	1	3	2	0	2	1	1	0	0	0	0	0	179	10	4	5.6	40
05:00 AM	3	331	84	1	7	3	2	8	6	0	0	0	0	0	0	445	27	14	6.1	51.9
06:00 AM	5	796	219	4	14	7	1	3	10	1	0	0	1	0	0	1061	41	15	3.9	36.6
07:00 AM	8	1259	284	5	30	4	0	4	10	0	0	0	0	0	0	1604	53	14	3.3	26.4
08:00 AM	10	1380	275	9	49	5	1	5	5	2	0	0	0	0	0	1741	76	12	4.4	15.8
09:00 AM	9	1346	316	12	41	5	1	13	12	2	0	0	0	0	0	1757	86	27	4.9	31.4
10:00 AM	15	1432	302	3	36	5	1	8	8	2	0	0	0	0	0	1812	63	18	3.5	28.6
11:00 AM	11	1613	314	4	37	2	1	6	7	0	0	0	1	0	0	1996	58	14	2.9	24.1
12:00 PM	11	1877	363	7	33	3	1	6	9	1	0	0	1	0	0	2312	61	17	2.6	27.9
13:00 PM	10	1798	363	4	32	7	2	5	11	0	0	0	3	0	0	2235	64	19	2.9	29.7
14:00 PM	17	1754	291	7	34	5	1	10	10	0	0	0	1	0	0	2130	68	21	3.2	30.9
15:00 PM	12	1733	321	2	30	9	1	5	9	1	0	0	0	0	0	2123	57	15	2.7	26.3
16:00 PM	11	1827	327	2	31	4	0	2	8	0	0	0	2	0	0	2214	49	12	2.2	24.5
17:00 PM	15	1815	312	7	31	7	1	3	8	1	0	0	2	0	0	2202	60	14	2.7	23.3
18:00 PM	16	1499	282	5	38	3	2	1	5	1	0	0	0	0	0	1852	55	7	3	12.7
19:00 PM	12	1261	219	5	21	1	0	6	2	3	0	0	0	0	0	1530	38	11	2.5	28.9
20:00 PM	10	982	147	4	17	2	1	0	5	1	0	0	0	0	0	1169	30	6	2.6	20
21:00 PM	2	688	121	0	13	1	0	5	4	1	0	0	1	0	0	836	25	11	3	44
22:00 PM	5	451	59	0	3	2	0	2	3	0	0	0	0	0	0	525	10	5	1.9	50
23:00 PM	3	262	40	0	3	0	0	2	4	0	0	0	0	0	0	314	9	6	2.9	66.7
Daily Total	191	43832	8128	111	882	129	39	171	231	27	0	0	21	0	0	30565	973	283	3.2	29.1
Thursday Jul 10, 2014																				
00:00 AM	1	163	18	0	2	0	0	1	8	0	0	0	0	0	0	193	11	9	5.7	81.8
01:00 AM	0	124	17	0	1	0	0	1	2	0	0	0	0	0	0	145	4	3	2.8	75
02:00 AM	1	72	6	0	2	1	0	2	3	0	0	0	0	0	0	87	8	5	9.2	62.5
03:00 AM	0	107	18	0	2	5	0	0	4	0	0	0	0	0	0	136	11	4	8.1	36.4
04:00 AM	0	150	29	1	5	1	0	2	2	0	0	0	0	0	0	190	11	4	5.8	36.4
05:00 AM	1	380	85	0	4	3	0	7	9	0	0	0	0	0	0	489	23	16	4.7	69.6
06:00 AM	4	768	206	2	25	3	0	6	7	1	0	0	0	0	0	1022	44	14	4.3	31.8
07:00 AM	7	1268	250	3	27	4	1	3	9	0	0	0	2	0	0	1574	49	14	3.1	28.6
08:00 AM	10	1304	301	2	35	5	0	11	10	0	0	0	1	0	0	1679	64	22	3.8	34.4
09:00 AM	6	1297	267	6	43	7	1	5	10	1	0	0	0	0	0	1643	73	16	4.4	21.9
Overall Total	**365**	**49465**	**9325**	**125**	**1028**	**158**	**41**	**209**	**295**	**29**	**0**	**0**	**24**	**0**	**0**	**61064**	**1909**	**557**	**3.1**	**29.2**
Pct. (%)	**0.6**	**81**	**15**	**0.2**	**1.7**	**0.3**	**0.1**	**0.3**	**0.5**	**0**	**0**	**0**	**0**	**0**	**0**					

Short Term Station 1390194

Georgia DOT

In Hall County
Located on 036900
LRS ID: 1391036900

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		2.93					
2014	28100		879	3.13	8.42	51.99	
2013	27300		1365	5			
2012	27400						
2011	28230						
2010	28630						
2009	31700						
2008	31160						
2007	32810						
2006	29260						
2005	31350						

About Station 1390312

Station ID	**1390312**	
County	Hall	
City		
Road		
Road functional class	urban - Principal Arterial - Other	
Description		
Routes	Route Number	6000
	Concurrent Route Number	
	Concurrent Route 2	
	Concurrent Route 3	
LRS Section ID	1391006000 @ 0.000 Miles	
Traffic Segment	0 0.000 to 0.000 Miles	
Coordinate (Lat/Lon)	34.288700, -83.828000	
Map Reference		
Camera ID		

Volume

2015	-	
2014	16100	Est. from last year
2013	16120	1 - 6 days
2012	14510	Est. from last year
2011	14700	1 - 6 days
2010	14410	1 - 6 days
2009	27760	Est. from last year
2008	27280	1 - 6 days
2007	27710	Est. from last year
2006	27710	Est. from last year
2005	28860	Est. from last year
2004	28570	Est. from last year
2003	28070	1 - 6 days
2002	31412	Est. from last year
2001	30700	Est. from last year
2000	29700	1 - 6 days
1999	38900	Est. from last year
1998	24500	1 - 6 days
1997	20000	1 - 6 days
1996	19600	1 - 6 days
1995	19600	1 - 6 days
1994	16500	1 - 6 days
1993	17800	1 - 6 days
1992	16584	1 - 6 days
1991	16983	1 - 6 days
1990	14699	1 - 6 days

Trucks

2015	-	
2014	819	Est. from previous years
2013	819	1 - 6 days
2012	-	
2011	889	1 - 6 days
2010	1101	1 - 6 days

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		-2.41					
2014	16100		819	5.09			
2013	16120		819	5.08	8	53	
2012	14510						
2011	14700		889	6.05			
2010	14410		1101	7.64			
2009	27760						
2008	27280						
2007	27710						
2006	27710						
2005	28860						

	Year	Month	Office Status	Summary	Volume By Hour	Class By Hour	Speed	Turning Movements	
	2011	Sep	Count accepted	Summary | By Day	All | East | West	All | East | West	All | East | West		
Included	2013	Jun	Count accepted	Summary | By Day	All | East | West	All | East | West	All | East | West		

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Survey Details

Survey ID	45901
Survey Type	class
Year / Month	2013 Jun
Project ID	1.389E+12
Device ID	
Survey Duration	2 Days 0 hours
Notes	
Technician	
Survey Status (Office)	

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Daily Volumes

	day	E, 1	E, 2	W, 1	W, 2	Total	Dir Split	Actual hours
06/24/2013	Mon	5148	0	5150	0	10298	50.0 %	0
06/25/2013	Tue	8396	0	8497	0	16893	49.7 %	0
06/26/2013	Wed	3313	0	3537	0	6850	48.4 %	0
Total		**16857**	**0**	**17184**	**0**	**34041**		
Days		**2**	**0**	**2**	**0**	**0**		
ADT		**8428**		**8592**				

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: All Directions

Time	Mon Jun 24	Tue Jun 25	Wed Jun 26	Total	Avg	Pct
12:00 am		170	172	342	171	1
1:00 am		118	114	232	116	0.68
2:00 am		110	107	217	108	0.64
3:00 am		83	94	177	88	0.52
4:00 am		160	142	302	151	0.89
5:00 am		365	344	709	354	2.08
6:00 am		721	724	1445	722	4.24
7:00 am		1114	1116	2230	1115	6.55
8:00 am		1015	1049	2064	1032	6.06
9:00 am		898	962	1860	930	5.46
10:00 am		864	948	1812	906	5.32
11:00 am		1083	1078	2161	1080	6.35
12:00 pm	1151	1240		2391	1196	7.02
1:00 pm	1140	1128		2268	1134	6.66
2:00 pm	1057	1082		2139	1070	6.28
3:00 pm	1195	1172		2367	1184	6.95
4:00 pm	1305	1297		2602	1301	7.64
5:00 pm	1334	1244		2578	1289	7.57
6:00 pm	879	869		1748	874	5.13
7:00 pm	691	642		1333	666	3.92
8:00 pm	525	508		1033	516	3.03
9:00 pm	441	443		884	442	2.6
10:00 pm	353	326		679	340	1.99
11:00 pm	227	241		468	234	1.37
Total	**10298**	**16893**	**6850**	**34041**	**17020**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: East

Time	Mon Jun 24	Tue Jun 25	Wed Jun 26	Total	Avg	Pct
12:00 am		91	89	180	90	1.07
1:00 am		75	68	143	72	0.85
2:00 am		69	61	130	65	0.77
3:00 am		48	55	103	52	0.61
4:00 am		56	45	101	50	0.6
5:00 am		139	129	268	134	1.59
6:00 am		218	238	456	228	2.71
7:00 am		485	471	956	478	5.67
8:00 am		614	599	1213	606	7.2
9:00 am		510	486	996	498	5.91
10:00 am		450	493	943	472	5.59
11:00 am		610	579	1189	594	7.05
12:00 pm	608	627		1235	618	7.33
1:00 pm	524	521		1045	522	6.2
2:00 pm	522	502		1024	512	6.07
3:00 pm	602	629		1231	616	7.3
4:00 pm	706	672		1378	689	8.17
5:00 pm	672	624		1296	648	7.69
6:00 pm	454	431		885	442	5.25
7:00 pm	342	320		662	331	3.93
8:00 pm	245	232		477	238	2.83
9:00 pm	191	207		398	199	2.36
10:00 pm	149	147		296	148	1.76
11:00 pm	133	119		252	126	1.49
Total	**5148**	**8396**	**3313**	**16857**	**8428**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Volume By Hour

Direction: West

Time	Mon Jun 24	Tue Jun 25	Wed Jun 26	Total	Avg	Pct
12:00 am		79	83	162	81	0.94
1:00 am		43	46	89	44	0.52
2:00 am		41	46	87	44	0.51
3:00 am		35	39	74	37	0.43
4:00 am		104	97	201	100	1.17
5:00 am		226	215	441	220	2.57
6:00 am		503	486	989	494	5.76
7:00 am		629	645	1274	637	7.41
8:00 am		401	450	851	426	4.95
9:00 am		388	476	864	432	5.03
10:00 am		414	455	869	434	5.06
11:00 am		473	499	972	486	5.66
12:00 pm	543	613		1156	578	6.73
1:00 pm	616	607		1223	612	7.12
2:00 pm	535	580		1115	558	6.49
3:00 pm	593	543		1136	568	6.61
4:00 pm	599	625		1224	612	7.12
5:00 pm	662	620		1282	641	7.46
6:00 pm	425	438		863	432	5.02
7:00 pm	349	322		671	336	3.9
8:00 pm	280	276		556	278	3.24
9:00 pm	250	236		486	243	2.83
10:00 pm	204	179		383	192	2.23
11:00 pm	94	122		216	108	1.26
Total	**5150**	**8497**	**3537**	**17184**	**8592**	
SF	**0**	**0**	**0**			
DF	**0**	**0**	**0**			
AADT		**0**			**0**	

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Class By Hour

Direction: All Directions

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Vol	Trucks	CU	% Tr	% CU
Monday Jun 24, 2013																				
12:00 PM	7	869	231	2	21	9	0	3	7	1	0	0	1	0	0	1151	44	12	3.8	27.3
13:00 PM	7	856	205	11	23	16	3	5	10	2	0	0	2	0	0	1140	72	19	6.3	26.4
14:00 PM	18	778	198	9	31	8	0	7	7	0	0	0	1	0	0	1057	63	15	6	23.8
15:00 PM	11	911	218	6	27	14	0	4	4	0	0	0	0	0	0	1195	55	8	4.6	14.5
16:00 PM	7	1025	228	1	29	5	1	2	6	1	0	0	0	0	0	1305	45	9	3.4	20
17:00 PM	16	1030	254	1	15	8	0	1	8	0	0	0	1	0	0	1334	34	10	2.5	29.4
18:00 PM	5	697	152	1	12	5	0	2	5	0	0	0	0	0	0	879	25	7	2.8	28
19:00 PM	3	550	115	0	14	1	0	0	7	0	0	0	1	0	0	691	23	8	3.3	34.8
20:00 PM	2	422	78	1	10	4	0	0	8	0	0	0	0	0	0	525	23	8	4.4	34.8
21:00 PM	2	370	57	0	6	1	0	2	3	0	0	0	0	0	0	441	12	5	2.7	41.7
22:00 PM	4	286	55	1	0	0	0	3	4	0	0	0	0	0	0	353	8	7	2.3	87.5
23:00 PM	1	185	29	1	2	1	0	1	7	0	0	0	0	0	0	227	12	8	5.3	66.7
Daily Total	83	7979	1820	34	190	72	4	30	76	4	0	0	6	0	0	10298	416	116	4	27.9
Tuesday Jun 25, 2013																				
00:00 AM	2	144	16	0	1	0	0	0	6	1	0	0	0	0	0	170	8	7	4.7	87.5
01:00 AM	1	91	15	0	1	0	0	1	9	0	0	0	0	0	0	118	11	10	9.3	90.9
02:00 AM	1	79	19	0	0	2	0	1	8	0	0	0	0	0	0	110	11	9	10	81.8
03:00 AM	1	66	8	1	0	1	0	1	5	0	0	0	0	0	0	83	8	6	9.6	75
04:00 AM	2	128	24	0	1	0	0	0	5	0	0	0	0	0	0	160	6	5	3.8	83.3
05:00 AM	0	270	65	1	9	5	0	0	15	0	0	0	0	0	0	365	30	15	8.2	50
06:00 AM	9	518	160	4	10	8	0	2	10	0	0	0	0	0	0	721	34	12	4.7	35.3
07:00 AM	7	835	203	6	36	12	0	3	9	3	0	0	0	0	0	1114	69	15	6.2	21.7
08:00 AM	5	758	190	6	23	13	0	4	15	0	0	0	1	0	0	1015	62	20	6.1	32.3
09:00 AM	8	662	166	8	24	16	0	3	8	1	0	0	2	0	0	898	62	14	6.9	22.6
10:00 AM	9	598	182	10	27	18	0	7	13	0	0	0	0	0	0	864	75	20	8.7	26.7
11:00 AM	8	806	201	4	25	18	0	5	15	0	0	0	1	0	0	1083	68	21	6.3	30.9
12:00 PM	7	932	248	5	23	10	0	4	9	1	0	0	1	0	0	1240	53	15	4.3	28.3
13:00 PM	8	855	206	7	29	11	1	2	7	2	0	0	0	0	0	1128	59	11	5.2	18.6
14:00 PM	10	818	192	5	31	13	0	4	6	0	1	0	2	0	0	1082	62	13	5.7	21
15:00 PM	9	894	209	2	31	10	0	8	7	1	0	0	1	0	0	1172	60	17	5.1	28.3
16:00 PM	8	991	247	3	27	5	2	4	9	1	0	0	0	0	0	1297	51	14	3.9	27.5
17:00 PM	15	991	201	2	17	7	1	1	8	1	0	0	0	0	0	1244	37	10	3	27
18:00 PM	4	719	127	2	8	1	0	1	7	0	0	0	0	0	0	869	19	8	2.2	42.1
19:00 PM	3	517	100	2	10	4	0	2	3	1	0	0	0	0	0	642	22	6	3.4	27.3
20:00 PM	3	422	73	0	4	1	0	0	5	0	0	0	0	0	0	508	10	5	2	50
21:00 PM	3	369	54	1	12	0	1	0	3	0	0	0	0	0	0	443	17	3	3.8	17.6
22:00 PM	3	268	42	2	6	0	0	2	3	0	0	0	0	0	0	326	13	5	4	38.5
23:00 PM	2	199	31	0	1	1	0	1	5	1	0	0	0	0	0	241	9	7	3.7	77.8
Daily Total	128	20909	4799	105	546	228	9	86	266	17	1	0	14	0	0	16893	856	268	5.1	31.3
Wednesday Jun 26, 2013																				
00:00 AM	2	134	21	1	2	0	0	0	12	0	0	0	0	0	0	172	15	12	8.7	80
01:00 AM	0	87	20	0	1	0	0	0	6	0	0	0	0	0	0	114	7	6	6.1	85.7
02:00 AM	0	88	15	0	0	0	0	0	4	0	0	0	0	0	0	107	4	4	3.7	100
03:00 AM	0	77	11	0	0	0	0	0	6	0	0	0	0	0	0	94	6	6	6.4	100
04:00 AM	2	99	31	0	1	2	0	0	7	0	0	0	0	0	0	142	10	7	7	70
05:00 AM	2	253	65	2	7	2	0	2	11	0	0	0	0	0	0	344	24	13	7	54.2
06:00 AM	4	520	161	2	20	2	0	1	12	2	0	0	0	0	0	724	39	15	5.4	38.5
07:00 AM	5	845	203	4	30	14	0	7	6	1	0	0	1	0	0	1116	63	15	5.6	23.8
08:00 AM	11	776	183	8	34	14	0	6	15	0	0	0	2	0	0	1049	79	23	7.5	29.1
09:00 AM	6	707	179	9	26	13	0	7	14	1	0	0	0	0	0	962	70	22	7.3	31.4
10:00 AM	12	676	186	10	26	21	0	5	11	1	0	0	0	0	0	948	74	17	7.8	23
11:00 AM	11	822	179	7	29	10	0	8	12	0	0	0	0	0	0	1078	66	20	6.1	30.3
Overall Total	**266**	**25993**	**6053**	**148**	**722**	**306**	**9**	**122**	**382**	**22**	**1**	**0**	**17**	**0**	**0**	**34041**	**1729**	**544**	**5.1**	**31.5**
Pct. (%)	**0.8**	**76**	**18**	**0.4**	**2.1**	**0.9**	**0**	**0.4**	**1.1**	**0.1**	**0**	**0**	**0**	**0**	**0**					

Short Term Station 1390312

Georgia DOT

In Hall County
Located on 006000
LRS ID: 1391006000

Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015		-0.12					
2014	16100		819	5.09			
2013	16120		819	5.08	8	53	
2012	14510						
2011	14700		889	6.05			
2010	14410		1101	7.64			
2009	27760						
2008	27280						
2007	27710						
2006	27710						
2005	28860						

About Station 1390257

Station ID	**1390257**	
County	Hall	
City		
Road		
Road functional class	urban - Principal Arterial - Other	
Description		
Routes	Route Number	0053CO
	Concurrent Route Number	
	Concurrent Route 2	
	Concurrent Route 3	
LRS Section ID	13910053CO @ 0.000 Miles	
Traffic Segment	0 0.000 to 0.000 Miles	
Coordinate (Lat/Lon)	34.296800, -83.840600	
Map Reference		
Camera ID		

Volume

2015	-	
2014	17900	1 - 6 days
2013	27730	Est. from last year
2012	27830	1 - 6 days
2011	23700	Est. from last year
2010	24040	Est. from last year
2009	-	
2008	29380	Est. from last year
2007	29840	Est. from last year
2006	27330	1 - 6 days
2005	29510	1 - 6 days
2004	44210	Est. from last year
2003	43430	Est. from last year
2002	31768	1 - 6 days
2001	62000	Est. from last year
2000	59900	Est. from last year
1999	43700	1 - 6 days
1998	27500	1 - 6 days

Trucks

2015	-	
2014	1145	Est. from last year
2013	1176	Est. from last year
2012	1180	1 - 6 days

Key Annual Trends

Year	Average	% APR Change	Truck Traffic	Trucks	K Factor	D Factor	Speed
2015		3.27					
2014	17900		1145	6.4	9.34	55.77	
2013	27730		1176	4.24			
2012	27830		1180	4.24			
2011	23700						
2010	24040						
2009							
2008	29380						
2007	29840						
2006	27330						
2005	29510						

	Year	Month	Office Status	Summary	Volume By Hour	Class By Hour	Speed	Turning Movements
Included	2012	Feb	Count accepted	Summary | By Day	All | East | West	All | East | West	All | East | West	
	2014	Jan	Count accepted	Summary | By Day	All | East | West	All | East | West	All | East | West	

Short Term Station 1390257

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Survey Details

Survey ID	6946
Survey Type	class
Year / Month	2014 Jan
Project ID	1.389E+12
Device ID	
Survey Duration	2 Days 0 hours
Notes	
Technician	sts
Survey Status (Office)	

Short Term Station 1390257

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Daily Volumes

	day	E, 1	E, 2	E, 3	W, 1	W, 2	W, 3	Total	Dir Split	Actual hours
05/20/2014	Tue	10044	0	0	9718	0	0	19762	50.8 %	0
05/21/2014	Wed	10322	0	0	9915	0	0	20237	51.0 %	0
05/22/2014	Thu	60	0	0	76	0	0	136	44.1 %	0
Total		**20426**	**0**	**0**	**19709**	**0**	**0**	**40135**		
Days		**2**	**0**	**0**	**2**	**0**	**0**	**0**		
ADT		**10213**			**9854**					

Short Term Station 1390257

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Volume By Hour

Direction: All Directions

Time	Tue May 20	Wed May 21	Thu May 22	Total	Avg	Pct
12:00 am		149	136	285	142	0.71
1:00 am	49	77		126	63	0.31
2:00 am	35	67		102	51	0.25
3:00 am	50	66		116	58	0.29
4:00 am	120	139		259	130	0.65
5:00 am	325	313		638	319	1.59
6:00 am	736	764		1500	750	3.74
7:00 am	1358	1327		2685	1342	6.69
8:00 am	1208	1134		2342	1171	5.84
9:00 am	976	974		1950	975	4.86
10:00 am	1088	1067		2155	1078	5.37
11:00 am	1175	1308		2483	1242	6.19
12:00 pm	1359	1420		2779	1390	6.92
1:00 pm	1359	1334		2693	1346	6.71
2:00 pm	1425	1349		2774	1387	6.91
3:00 pm	1396	1460		2856	1428	7.12
4:00 pm	1566	1519		3085	1542	7.69
5:00 pm	1602	1671		3273	1636	8.15
6:00 pm	1262	1302		2564	1282	6.39
7:00 pm	917	1010		1927	964	4.8
8:00 pm	687	726		1413	706	3.52
9:00 pm	553	532		1085	542	2.7
10:00 pm	300	291		591	296	1.47
11:00 pm	216	238		454	227	1.13
Total	**19762**	**20237**	**136**	**40135**	**20067**	
SF	**0.971**	**0.971**	**0.971**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**18081**			**17884**	

Short Term Station 1390257

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Volume By Hour

Direction: East

Time	Tue May 20	Wed May 21	Thu May 22	Total	Avg	Pct
12:00 am		64	60	124	62	0.61
1:00 am	19	34		53	26	0.26
2:00 am	19	29		48	24	0.23
3:00 am	30	33		63	32	0.31
4:00 am	83	83		166	83	0.81
5:00 am	213	207		420	210	2.06
6:00 am	511	549		1060	530	5.19
7:00 am	864	818		1682	841	8.23
8:00 am	674	605		1279	640	6.26
9:00 am	471	493		964	482	4.72
10:00 am	493	497		990	495	4.85
11:00 am	520	582		1102	551	5.4
12:00 pm	652	693		1345	672	6.58
1:00 pm	726	730		1456	728	7.13
2:00 pm	743	710		1453	726	7.11
3:00 pm	670	703		1373	686	6.72
4:00 pm	666	666		1332	666	6.52
5:00 pm	690	739		1429	714	7
6:00 pm	580	611		1191	596	5.83
7:00 pm	455	510		965	482	4.72
8:00 pm	354	390		744	372	3.64
9:00 pm	335	300		635	318	3.11
10:00 pm	168	175		343	172	1.68
11:00 pm	108	101		209	104	1.02
Total	**10044**	**10322**	**60**	**20426**	**10213**	
SF	**0.971**	**0.971**	**0.971**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**9223**			**9102**	

Short Term Station 1390257

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Volume By Hour

Direction: West

Time	Tue May 20	Wed May 21	Thu May 22	Total	Avg	Pct
12:00 am		85	76	161	80	0.82
1:00 am	30	43		73	36	0.37
2:00 am	16	38		54	27	0.27
3:00 am	20	33		53	26	0.27
4:00 am	37	56		93	46	0.47
5:00 am	112	106		218	109	1.11
6:00 am	225	215		440	220	2.23
7:00 am	494	509		1003	502	5.09
8:00 am	534	529		1063	532	5.39
9:00 am	505	481		986	493	5
10:00 am	595	570		1165	582	5.91
11:00 am	655	726		1381	690	7.01
12:00 pm	707	727		1434	717	7.28
1:00 pm	633	604		1237	618	6.28
2:00 pm	682	639		1321	660	6.7
3:00 pm	726	757		1483	742	7.52
4:00 pm	900	853		1753	876	8.89
5:00 pm	912	932		1844	922	9.36
6:00 pm	682	691		1373	686	6.97
7:00 pm	462	500		962	481	4.88
8:00 pm	333	336		669	334	3.39
9:00 pm	218	232		450	225	2.28
10:00 pm	132	116		248	124	1.26
11:00 pm	108	137		245	122	1.24
Total	**9718**	**9915**	**76**	**19709**	**9854**	
SF	**0.971**	**0.971**	**0.971**			
DF	**0.943**	**0.948**	**0.922**			
ACF	**0.971**	**0.971**	**0.971**			
AADT		**8859**			**8782**	

Short Term Station 1390257

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

Class By Hour

Direction: All Directions

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Vol	Trucks	CU	% Tr	% CU
Tuesday May 20, 2014																				
01:00 AM	0	37	7	0	0	0	0	0	5	0	0	0	0	0	0	49	5	5	10.2	100
02:00 AM	0	22	9	0	0	1	0	0	3	0	0	0	0	0	0	35	4	3	11.4	75
03:00 AM	0	32	10	2	1	0	0	1	4	0	0	0	0	0	0	50	8	5	16	62.5
04:00 AM	0	72	30	1	5	1	0	1	10	0	0	0	0	0	0	120	18	11	15	61.1
05:00 AM	0	214	84	1	11	0	0	3	12	0	0	0	0	0	0	325	27	15	8.3	55.6
06:00 AM	1	489	180	6	26	3	0	5	26	0	0	0	0	0	0	736	66	31	9	47
07:00 AM	2	948	327	8	47	4	0	8	14	0	0	0	0	0	0	1358	81	22	6	27.2
08:00 AM	1	811	312	5	48	3	1	9	18	0	0	0	0	0	0	1208	84	27	7	32.1
09:00 AM	1	665	230	6	47	2	0	6	19	0	0	0	0	0	0	976	80	25	8.2	31.2
10:00 AM	1	753	239	9	40	5	0	7	34	0	0	0	0	0	0	1088	95	41	8.7	43.2
11:00 AM	1	833	267	8	37	2	0	10	17	0	0	0	0	0	0	1175	74	27	6.3	36.5
12:00 PM	3	975	295	6	54	3	0	7	15	1	0	0	0	0	0	1359	86	23	6.3	26.7
13:00 PM	4	967	315	5	32	3	0	12	21	0	0	0	0	0	0	1359	73	33	5.4	45.2
14:00 PM	2	1014	317	2	49	7	0	14	19	1	0	0	0	0	0	1425	92	34	6.5	37
15:00 PM	5	993	307	15	50	4	0	4	18	0	0	0	0	0	0	1396	91	22	6.5	24.2
16:00 PM	3	1151	316	8	55	1	0	9	21	2	0	0	0	0	0	1566	96	32	6.1	33.3
17:00 PM	9	1215	318	2	31	3	0	7	15	2	0	0	0	0	0	1602	60	24	3.7	40
18:00 PM	6	941	259	2	35	2	0	1	15	0	0	0	1	0	0	1262	56	17	4.4	30.4
19:00 PM	2	703	156	1	25	4	0	6	20	0	0	0	0	0	0	917	56	26	6.1	46.4
20:00 PM	4	530	127	2	8	0	0	5	11	0	0	0	0	0	0	687	26	16	3.8	61.5
21:00 PM	1	408	106	2	17	2	0	2	13	1	1	0	0	0	0	553	38	17	6.9	44.7
22:00 PM	0	236	44	0	6	1	0	3	10	0	0	0	0	0	0	300	20	13	6.7	65
23:00 PM	1	159	32	1	4	2	0	2	15	0	0	0	0	0	0	216	24	17	11.1	70.8
Daily Total	47	14168	4287	92	628	53	1	122	355	7	1	0	1	0	0	19762	1260	486	6.4	38.6
Wednesday May 21, 2014																				
00:00 AM	2	108	21	0	3	1	0	0	14	0	0	0	0	0	0	149	18	14	12.1	77.8
01:00 AM	1	43	15	0	1	4	0	1	12	0	0	0	0	0	0	77	18	13	23.4	72.2
02:00 AM	0	47	11	0	0	1	0	1	7	0	0	0	0	0	0	67	9	8	13.4	88.9
03:00 AM	0	36	13	2	0	2	0	0	13	0	0	0	0	0	0	66	17	13	25.8	76.5
04:00 AM	1	76	29	0	3	2	0	2	25	0	1	0	0	0	0	139	33	28	23.7	84.8
05:00 AM	1	202	73	1	6	1	0	2	27	0	0	0	0	0	0	313	37	29	11.8	78.4
06:00 AM	5	536	170	10	18	5	0	5	15	0	0	0	0	0	0	764	53	20	6.9	37.7
07:00 AM	7	942	287	8	51	7	1	7	16	0	0	0	1	0	0	1327	91	24	6.9	26.4
08:00 AM	1	797	242	9	46	4	0	5	29	1	0	0	0	0	0	1134	94	35	8.3	37.2
09:00 AM	1	655	245	8	32	5	0	11	17	0	0	0	0	0	0	974	73	28	7.5	38.4
10:00 AM	2	740	256	6	33	2	0	7	20	1	0	0	0	0	0	1067	69	28	6.5	40.6
11:00 AM	0	925	302	7	32	4	0	8	30	0	0	0	0	0	0	1308	81	38	6.2	46.9
12:00 PM	3	1018	326	4	34	3	0	9	19	4	0	0	0	0	0	1420	73	32	5.1	43.8
13:00 PM	8	957	275	8	50	10	0	2	22	2	0	0	0	0	0	1334	94	26	7	27.7
14:00 PM	6	956	276	12	47	6	0	16	29	0	0	0	1	0	0	1349	111	46	8.2	41.4
15:00 PM	8	1052	318	9	36	8	1	9	17	1	0	0	1	0	0	1460	82	28	5.6	34.1
16:00 PM	9	1089	333	12	42	2	0	10	21	1	0	0	0	0	0	1519	88	32	5.8	36.4
17:00 PM	2	1253	340	2	47	1	0	5	21	0	0	0	0	0	0	1671	76	26	4.5	34.2
18:00 PM	6	984	267	2	29	1	0	3	10	0	0	0	0	0	0	1302	45	13	3.5	28.9
19:00 PM	3	747	209	2	26	0	0	4	15	3	0	0	1	0	0	1010	51	23	5	45.1
20:00 PM	3	540	161	0	12	0	0	1	8	1	0	0	0	0	0	726	22	10	3	45.5
21:00 PM	2	414	86	1	16	1	0	0	11	0	1	0	0	0	0	532	30	12	5.6	40
22:00 PM	2	225	49	2	3	0	0	0	10	0	0	0	0	0	0	291	15	10	5.2	66.7

23:00 PM	3	189	30	0	4	1	0	2	9	0	0	0	0	0	0	238	16	11	6.7	68.8
Daily Total	76	28699	8621	197	1199	124	3	232	772	21	3	0	5	0	0	20237	1296	547	6.4	42.2
Thursday May 22, 2014																				
00:00 AM	0	104	18	0	3	0	0	1	10	0	0	0	0	0	0	136	14	11	10.3	78.6
Overall Total	**123**	**28803**	**8639**	**197**	**1202**	**124**	**3**	**233**	**782**	**21**	**3**	**0**	**5**	**0**	**0**	**40135**	**2570**	**1044**	**6.4**	**40.6**
Pct. (%)	**0.3**	**72**	**22**	**0.5**	**3**	**0.3**	**0**	**0.6**	**1.9**	**0.1**	**0**	**0**	**0**	**0**	**0**					

Short Term Station 1390257

Georgia DOT

In Hall County
Located on 0053CO
LRS ID: 13910053CO

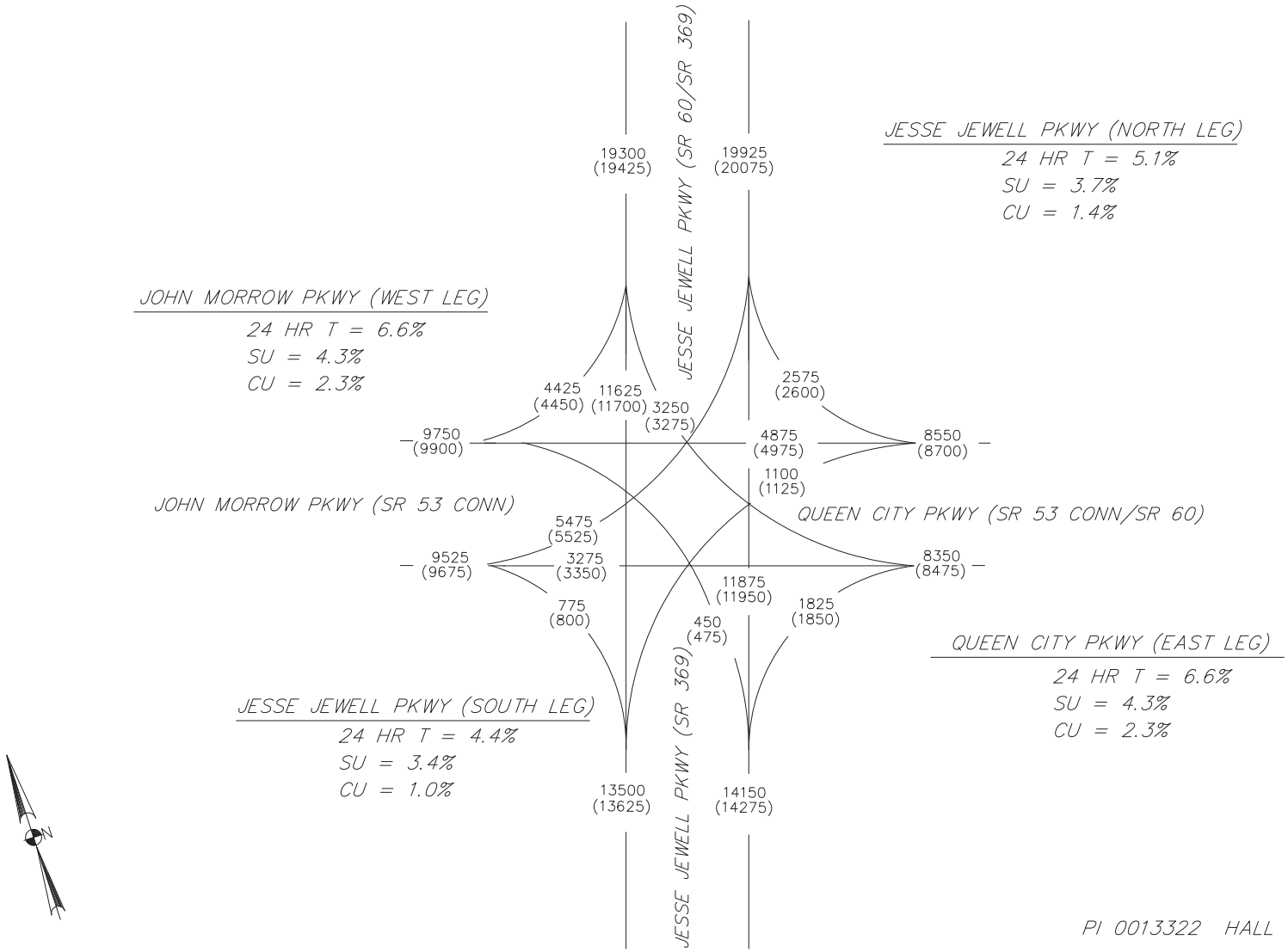
Key Annual Trends

Year	Annual Average Daily Traffic	% APR Change	Annual Average Daily Truck Traffic	% Trucks	K Factor	D Factor	85th Pctl Speed
2015	18485	3.27	1183	6.4			
2014	17900		1145	6.4	9.34	55.77	
2013	27730		1176	4.24			
2012	27830		1180	4.24			
2011	23700						
2010	24040						
2009							
2008	29380						
2007	29840						
2006	27330						
2005	29510						

Appendix D

Study Traffic Flow Diagrams

(Existing, No Build and Build)



PI 0013322 HALL COUNTY

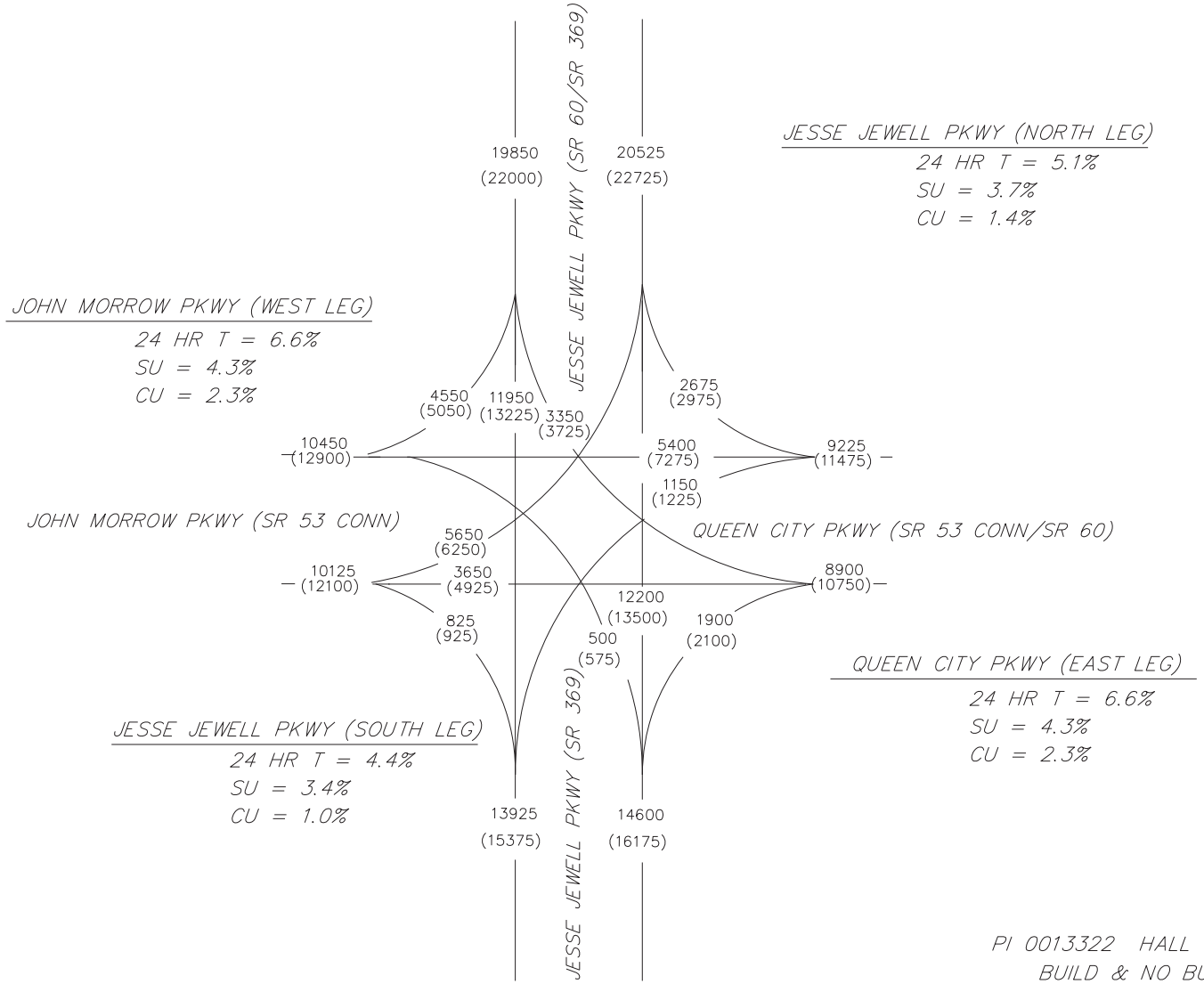
JESSE JEWELL PKWY @ JOHN MORROW PKWY/QUEEN CITY PKWY
EXISTING AVERAGE DAILY TRAFFIC
TRAFFIC FLOW DIAGRAM

LEGEND
00 2014 ADT
(00) 2015 ADT

Project No.	939-15-219
Design By:	AAD
Drawn By:	DWT
Date:	04/14/16
Scale:	NTS

SHEET 1 OF 8

SEI
SOUTHEASTERN ENGINEERING
2470 Sandy Plains Road
Marietta, Georgia • 30066
tel: 770-321-3936 fax: 770-321-3935



PI 0013322 HALL COUNTY
BUILD & NO BUILD

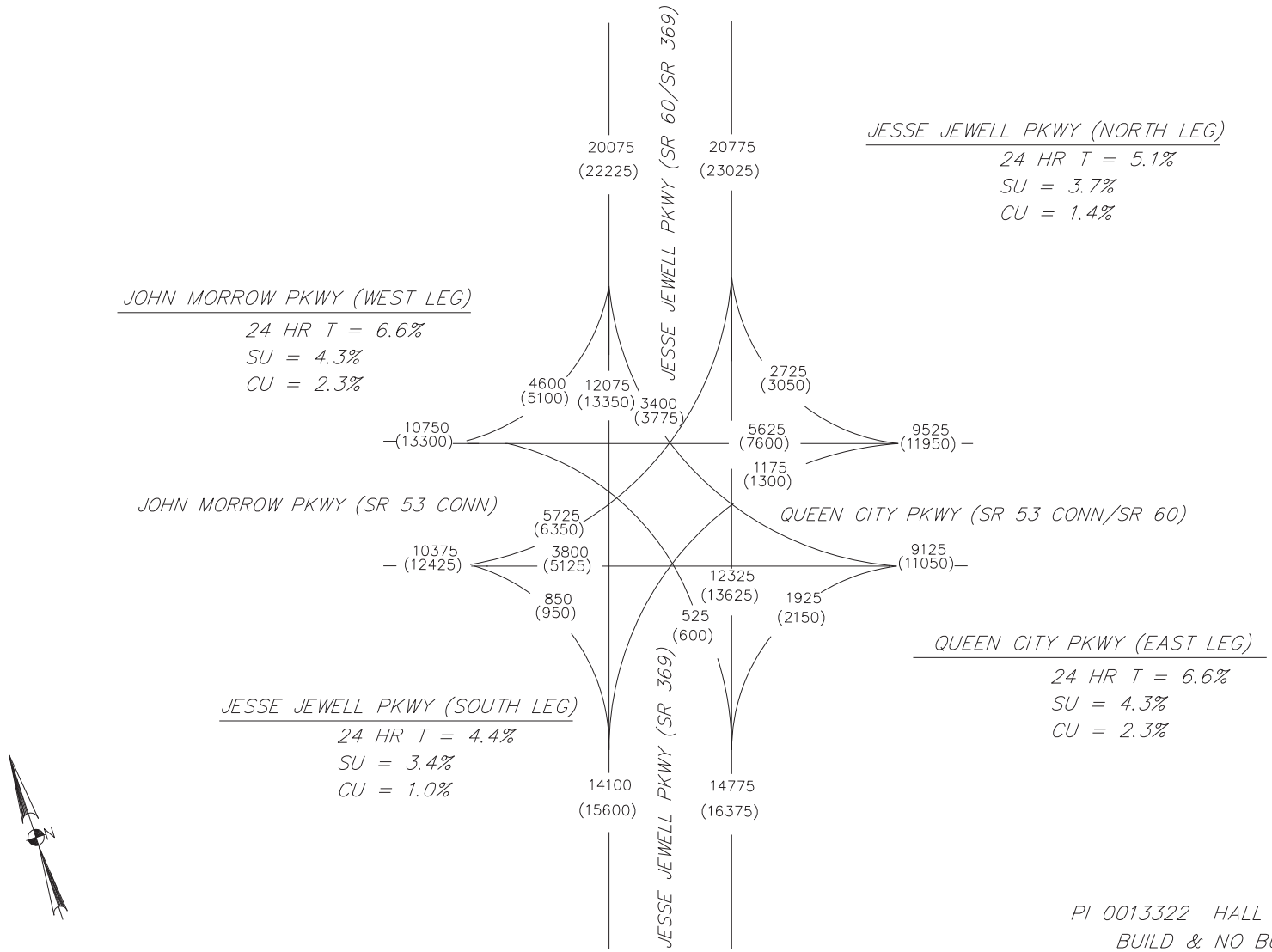
JESSE JEWELL PKWY @ JOHN MORROW PKWY/QUEEN CITY PKWY
OPENING & DESIGN YEARS
AVERAGE DAILY TRAFFIC
BUILD & NO-BUILD
TRAFFIC FLOW DIAGRAM

LEGEND
00 2019 ADT
(00) 2039 ADT

Project No.	939-15-219
Design By:	AAD
Drawn By:	DWT
Date:	04/14/16
Scale:	NTS

SHEET 2 OF 8

SOUTHEASTERN ENGINEERING
2470 Sandy Plains Road
Marietta, Georgia • 30066
tel: 770-321-3936 fax: 770-321-3935



PI 0013322 HALL COUNTY
BUILD & NO BUILD

JESSE JEWELL PKWY @ JOHN MORROW PKWY/QUEEN CITY PKWY
OPENING & DESIGN (+2 YEARS)
AVERAGE DAILY TRAFFIC
BUILD & NO-BUILD
TRAFFIC FLOW DIAGRAM

LEGEND
00 2021 ADT
(00) 2041 ADT

Project No.	939-15-219
Design By:	AAD
Drawn By:	DWT
Date:	04/14/16
Scale:	NTS

SHEET 3 OF 8

SEI
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Marietta, Georgia • 30066
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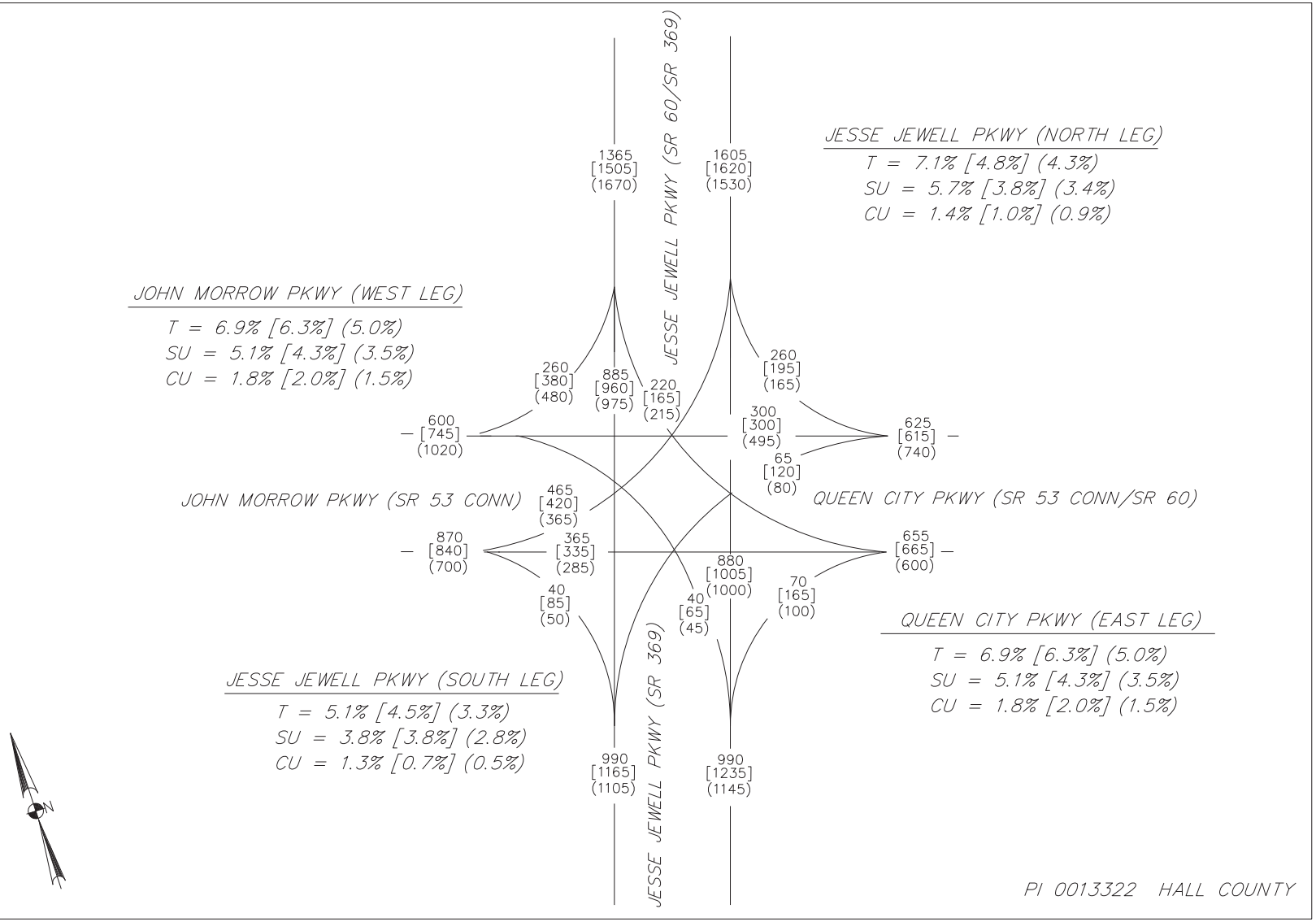

JESSE JEWELL PKWY @ JOHN MORROW PKWY/QUEEN CITY PKWY
EXISTING YEAR (2015)
PEAK HOUR DHV VOLUMES
TRAFFIC FLOW DIAGRAM

LEGEND

00 AM PEAK HOUR
[00] MID PEAK HOUR
(00) PM PEAK HOUR

Project No.	939-15-219
Design By:	AAD
Drawn By:	DWT
Date:	04/14/16
Scale:	NTS

SHEET 4 OF 8

SOUTHEASTERN ENGINEERING
2470 Sandy Plains Road
Marietta, Georgia • 30066
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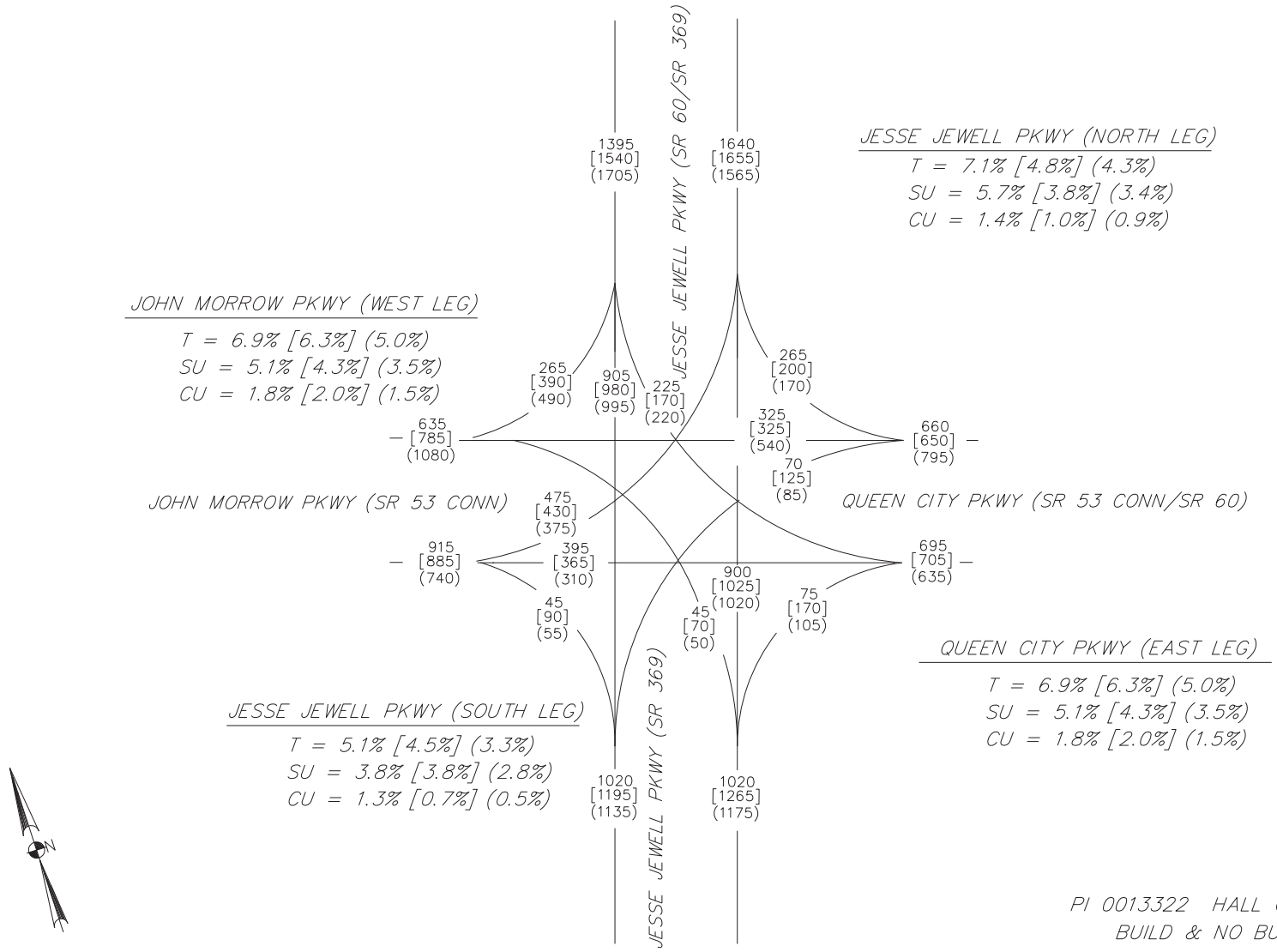

PI 0013322 HALL COUNTY
BUILD & NO BUILD

JESSE JEWELL PKWY @ JOHN MORROW PKWY/QUEEN CITY PKWY
OPENING YEAR (2019)
PEAK HOUR DHV VOLUMES:
BUILD & NO-BUILD
TRAFFIC FLOW DIAGRAM

LEGEND
00 AM PEAK HOUR
[00] MID PEAK HOUR
(00) PM PEAK HOUR

Project No.	939-15-219
Design By:	AAD
Drawn By:	DWT
Date:	04/14/16
Scale:	NTS

SHEET 5 OF 8

SEI
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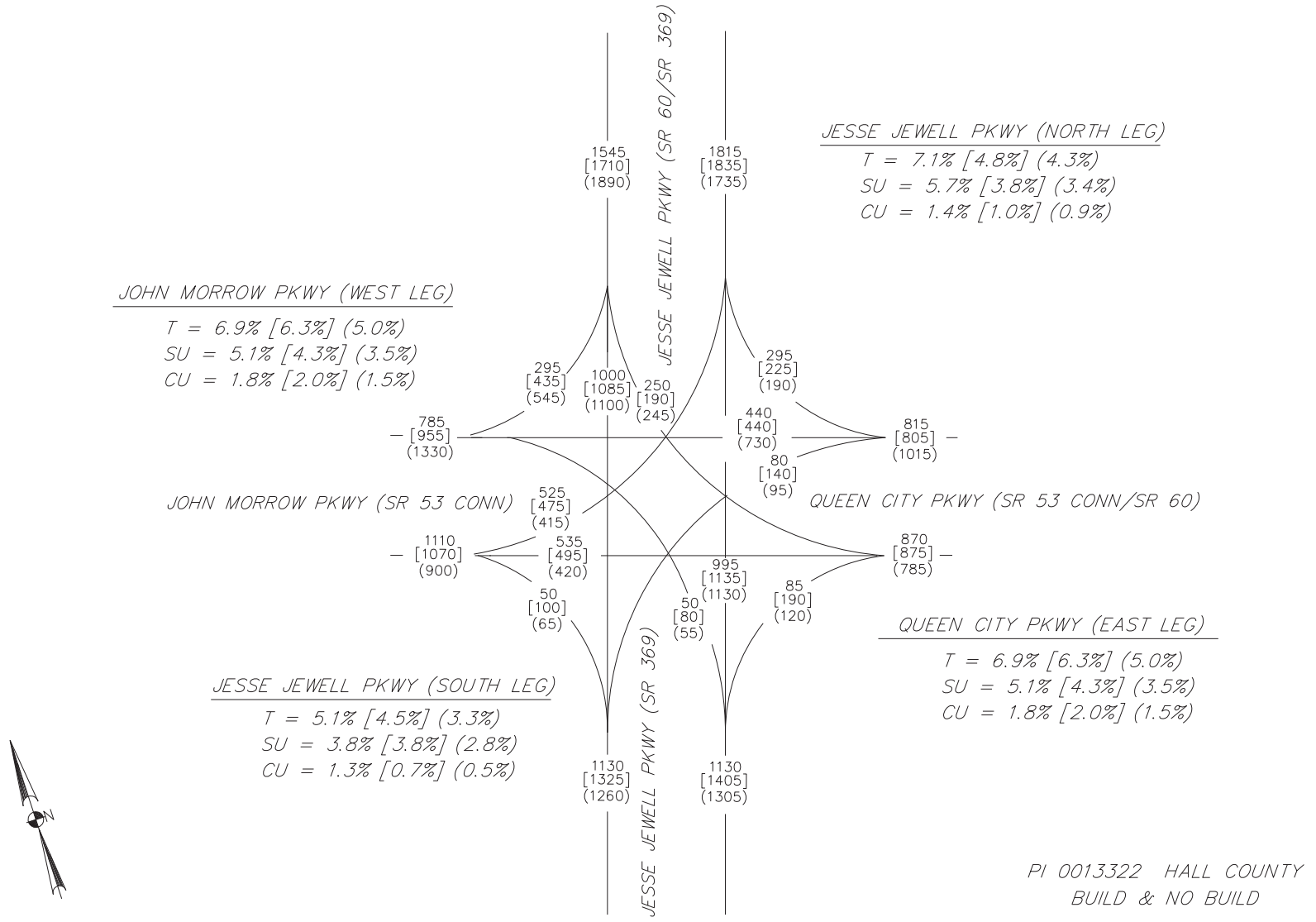
tel: 770-321-3936 fax: 770-321-3935



PI 0013322 HALL COUNTY
BUILD & NO BUILD

JESSE JEWELL PKWY @ JOHN MORROW PKWY/QUEEN CITY PKWY
DESIGN YEAR (2039)
PEAK HOUR DHV VOLUMES:
BUILD & NO-BUILD
TRAFFIC FLOW DIAGRAM

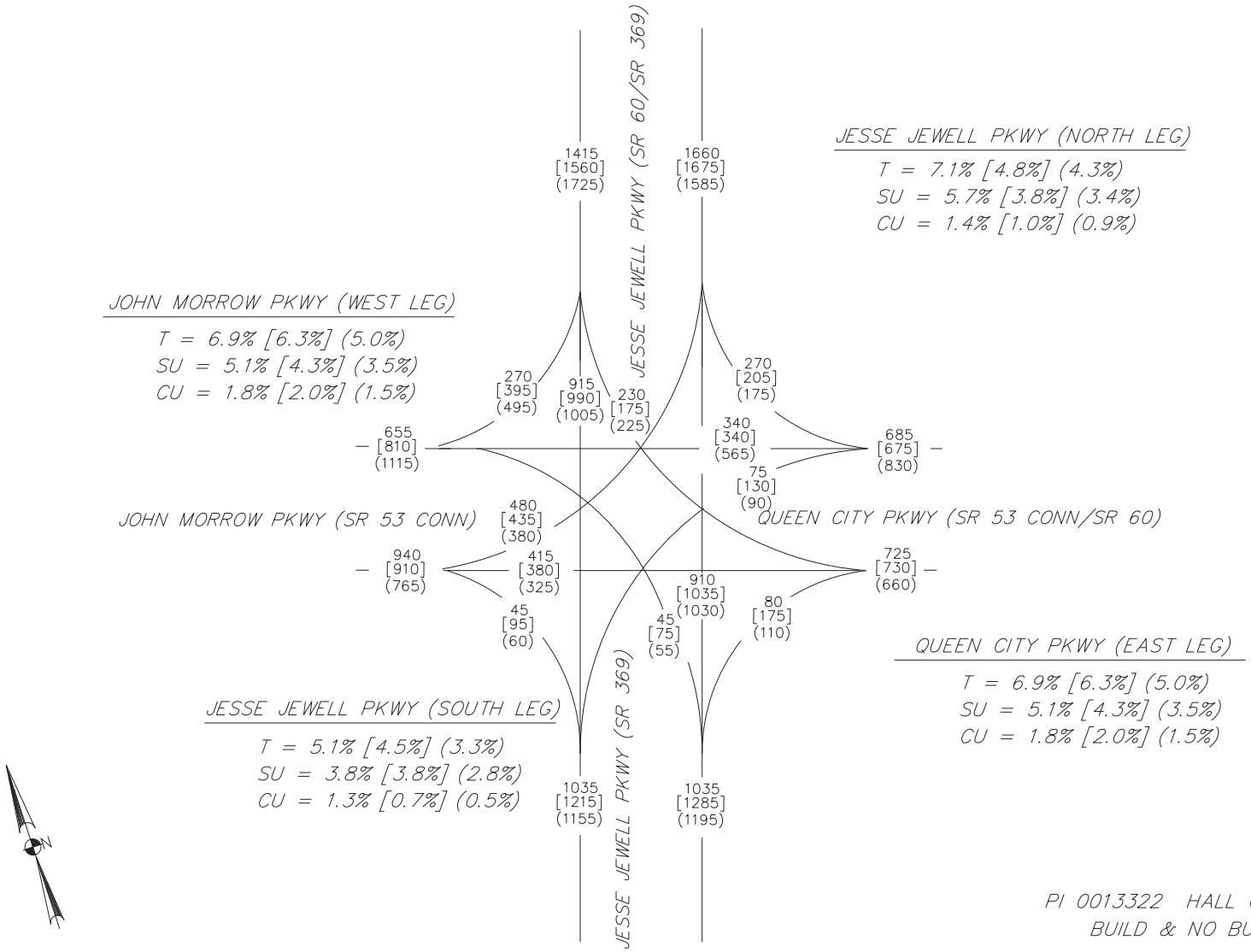
LEGEND

00 AM PEAK HOUR
[00] MID PEAK HOUR
(00) PM PEAK HOUR

Project No.	939-15-219
Design By:	AAD
Drawn By:	DWT
Date:	04/14/16
Scale:	NTS

SHEET 6 OF 8

SEI
SOUTHEASTERN ENGINEERING
2470 Sandy Plains Road
Marietta, Georgia • 30066
tel: 770-321-3936 fax: 770-321-3935



PI 0013322 HALL COUNTY
BUILD & NO BUILD

JESSE JEWELL PKWY @ JOHN MORROW PKWY/QUEEN CITY PKWY
OPENING PLUS TWO YEARS (2021)
PEAK HOUR DHV VOLUMES:
BUILD & NO-BUILD
TRAFFIC FLOW DIAGRAM

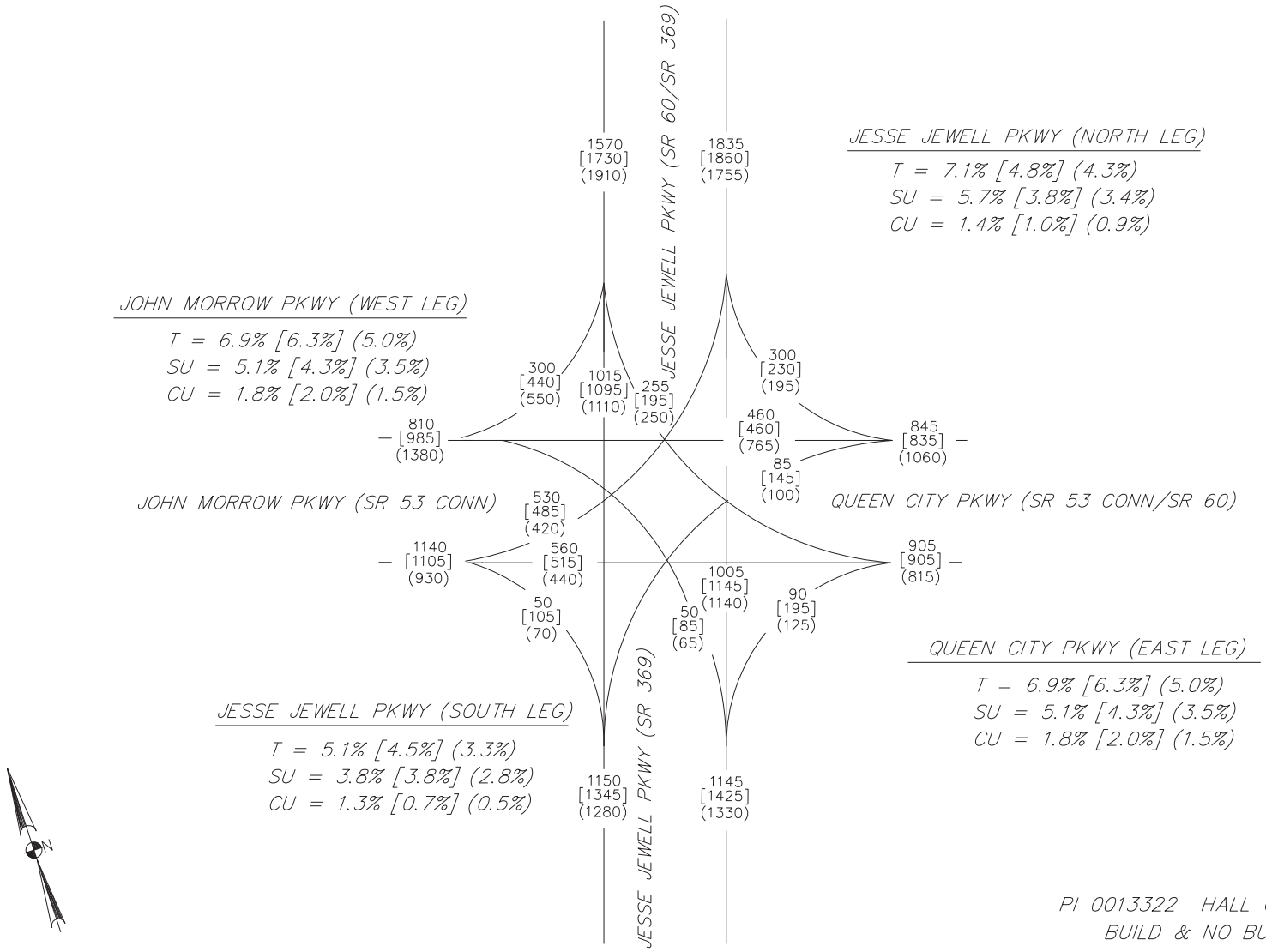
LEGEND

00 AM PEAK HOUR
[00] MID PEAK HOUR
(00) PM PEAK HOUR

Project No.	939-15-219
Design By:	AAD
Drawn By:	DWT
Date:	04/14/16
Scale:	NTS

SHEET 7 OF 8

SOUTHEASTERN ENGINEERING
2470 Sandy Plains Road
Marietta, Georgia • 30066
tel: 770-321-3936 fax: 770-321-3935



PI 0013322 HALL COUNTY
BUILD & NO BUILD

JESSE JEWELL PKWY @ JOHN MORROW PKWY/QUEEN CITY PKWY
DESIGN PLUS TWO YEARS (2041)
PEAK HOUR DHV VOLUMES:
BUILD & NO-BUILD
TRAFFIC FLOW DIAGRAM

LEGEND

00 AM PEAK HOUR
[00] MID PEAK HOUR
(00) PM PEAK HOUR

Project No.	939-15-219
Design By:	AAD
Drawn By:	DWT
Date:	04/14/16
Scale:	NTS

SHEET 8 OF 8

SEI
SOUTHEASTERN ENGINEERING
2470 Sandy Plains Road
Marietta, Georgia • 30066
tel: 770-321-3936 fax: 770-321-3935

Appendix E

No Build Synchro Outputs

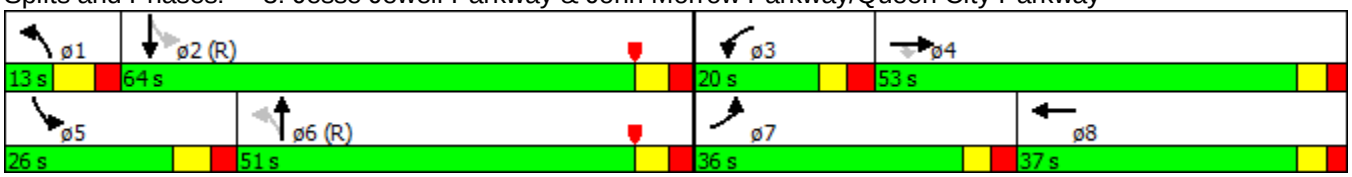
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	465	365	40	65	300	260	40	880	70	220	885	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.930			0.989			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3138	0	1719	3400	0	1687	3259	0
Flt Permitted	0.950			0.950			0.101			0.071		
Satd. Flow (perm)	3273	3374	1509	3273	3138	0	183	3400	0	126	3259	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		133			6			30	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1082			1233	
Travel Time (s)		7.1			5.8			21.1			24.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	495	388	43	69	319	277	43	936	74	234	941	277
Shared Lane Traffic (%)												
Lane Group Flow (vph)	495	388	43	69	596	0	43	1010	0	234	1218	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	36.0	53.0	53.0	20.0	37.0		13.0	51.0		26.0	64.0	
Total Split (%)	24.0%	35.3%	35.3%	13.3%	24.7%		8.7%	34.0%		17.3%	42.7%	
Maximum Green (s)	30.0	47.2	47.2	13.8	31.2		5.3	44.3		18.8	57.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	26.9	48.3	48.3	8.6	27.6		55.8	50.8		76.5	65.9	
Actuated g/C Ratio	0.18	0.32	0.32	0.06	0.18		0.37	0.34		0.51	0.44	
v/c Ratio	0.84	0.36	0.07	0.37	0.87		0.33	0.87		0.90	0.84	
Control Delay	73.2	39.9	0.2	73.3	59.7		30.5	56.7		74.9	44.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	73.2	39.9	0.2	73.3	59.7		30.5	56.7		74.9	44.6	
LOS	E	D	A	E	E		C	E		E	D	
Approach Delay		55.9			61.1			55.7			49.5	
Approach LOS		E			E			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 92 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 54.4 Intersection LOS: D
Intersection Capacity Utilization 89.9% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	495	388	43	69	596	43	1010	234	1218
v/c Ratio	0.84	0.36	0.07	0.37	0.87	0.33	0.87	0.90	0.84
Control Delay	73.2	39.9	0.2	73.3	59.7	30.5	56.7	74.9	44.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.2	39.9	0.2	73.3	59.7	30.5	56.7	74.9	44.6
Queue Length 50th (ft)	242	153	0	34	236	22	~522	176	584
Queue Length 95th (ft)	304	197	0	60	306	47	#677	#350	#756
Internal Link Dist (ft)		282			219		1002		1153
Turn Bay Length (ft)	200		170	130		110		435	
Base Capacity (vph)	654	1102	614	301	758	129	1155	271	1448
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.35	0.07	0.23	0.79	0.33	0.87	0.86	0.84

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

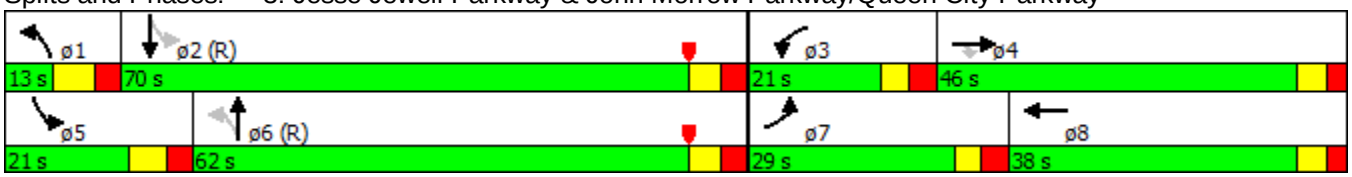
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	420	335	85	120	300	195	65	1005	165	165	960	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.941			0.979			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3205	0	1719	3366	0	1719	3290	0
Flt Permitted	0.950			0.950			0.064			0.071		
Satd. Flow (perm)	3303	3406	1524	3303	3205	0	116	3366	0	128	3290	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		92			14			49	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1082			1233	
Travel Time (s)		7.1			5.8			21.1			24.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	433	345	88	124	309	201	67	1036	170	170	990	392
Shared Lane Traffic (%)												
Lane Group Flow (vph)	433	345	88	124	510	0	67	1206	0	170	1382	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	29.0	46.0	46.0	21.0	38.0		13.0	62.0		21.0	70.0	
Total Split (%)	19.3%	30.7%	30.7%	14.0%	25.3%		8.7%	41.3%		14.0%	46.7%	
Maximum Green (s)	23.0	40.2	40.2	14.8	32.2		5.3	55.3		13.8	63.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	22.3	36.8	36.8	11.0	25.7		68.3	62.0		81.9	68.6	
Actuated g/C Ratio	0.15	0.25	0.25	0.07	0.17		0.46	0.41		0.55	0.46	
v/c Ratio	0.88	0.41	0.17	0.51	0.82		0.52	0.86		0.77	0.90	
Control Delay	82.2	48.6	0.7	74.1	59.5		37.7	48.0		54.3	46.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	82.2	48.6	0.7	74.1	59.5		37.7	48.0		54.3	46.3	
LOS	F	D	A	E	E		D	D		D	D	
Approach Delay		60.6			62.4			47.5			47.1	
Approach LOS		E			E			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 52.2 Intersection LOS: D
Intersection Capacity Utilization 91.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	433	345	88	124	510	67	1206	170	1382
v/c Ratio	0.88	0.41	0.17	0.51	0.82	0.52	0.86	0.77	0.90
Control Delay	82.2	48.6	0.7	74.1	59.5	37.7	48.0	54.3	46.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	48.6	0.7	74.1	59.5	37.7	48.0	54.3	46.3
Queue Length 50th (ft)	215	148	0	61	211	30	581	103	653
Queue Length 95th (ft)	#301	193	0	95	266	#96	#756	#235	#845
Internal Link Dist (ft)		282			219		1002		1153
Turn Bay Length (ft)	200		170	130		110		435	
Base Capacity (vph)	506	915	541	325	760	129	1400	230	1530
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.38	0.16	0.38	0.67	0.52	0.86	0.74	0.90

Intersection Summary

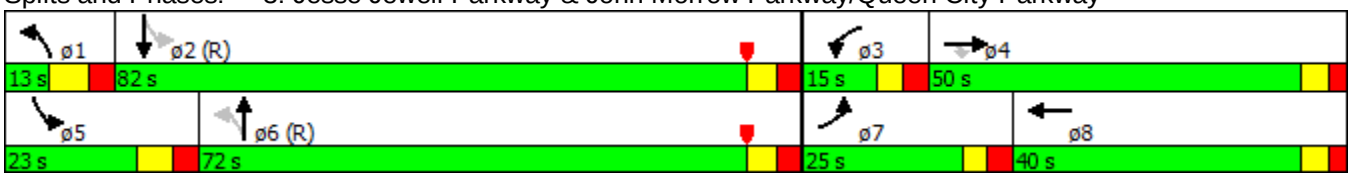
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	365	285	50	80	495	165	45	1000	100	215	975	480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.963			0.986			0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3311	0	1752	3456	0	1736	3301	0
Flt Permitted	0.950			0.950			0.060			0.094		
Satd. Flow (perm)	3335	3438	1538	3335	3311	0	111	3456	0	172	3301	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		26			8			71	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1082			1233	
Travel Time (s)		7.1			5.8			21.1			24.0	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	372	291	51	82	505	168	46	1020	102	219	995	490
Shared Lane Traffic (%)												
Lane Group Flow (vph)	372	291	51	82	673	0	46	1122	0	219	1485	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	25.0	50.0	50.0	15.0	40.0		13.0	72.0		23.0	82.0	
Total Split (%)	15.6%	31.3%	31.3%	9.4%	25.0%		8.1%	45.0%		14.4%	51.3%	
Maximum Green (s)	19.0	44.2	44.2	8.8	34.2		5.3	65.3		15.8	75.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	19.0	44.2	44.2	8.3	33.7		70.7	66.3		88.3	78.4	
Actuated g/C Ratio	0.12	0.28	0.28	0.05	0.21		0.44	0.41		0.55	0.49	
v/c Ratio	0.94	0.31	0.09	0.48	0.94		0.44	0.78		0.90	0.90	
Control Delay	101.2	46.8	0.3	83.1	80.8		33.1	45.2		67.5	44.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	101.2	46.8	0.3	83.1	80.8		33.1	45.2		67.5	44.4	
LOS	F	D	A	F	F		C	D		E	D	
Approach Delay		71.9			81.0			44.7			47.4	
Approach LOS		E			F			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 56.6	Intersection LOS: E
Intersection Capacity Utilization 97.5%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	372	291	51	82	673	46	1122	219	1485
v/c Ratio	0.94	0.31	0.09	0.48	0.94	0.44	0.78	0.90	0.90
Control Delay	101.2	46.8	0.3	83.1	80.8	33.1	45.2	67.5	44.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.2	46.8	0.3	83.1	80.8	33.1	45.2	67.5	44.4
Queue Length 50th (ft)	202	127	0	43	354	22	534	142	736
Queue Length 95th (ft)	#304	172	0	74	#472	45	626	#298	#876
Internal Link Dist (ft)		282			219		1002		1153
Turn Bay Length (ft)	200		170	130		110		435	
Base Capacity (vph)	396	952	548	183	728	104	1436	249	1654
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.31	0.09	0.45	0.92	0.44	0.78	0.88	0.90

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

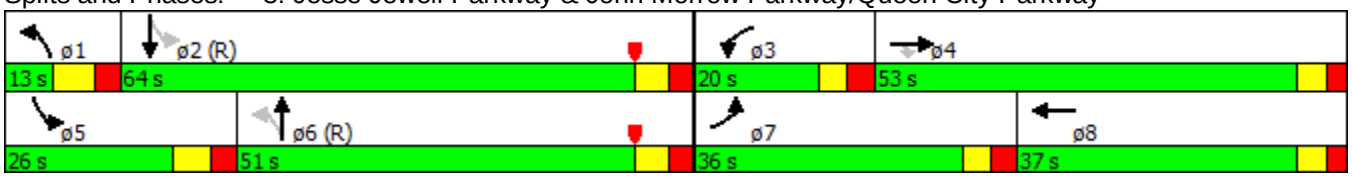
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	475	395	45	70	325	265	45	900	75	225	905	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.933			0.988			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3148	0	1719	3397	0	1687	3259	0
Flt Permitted	0.950			0.950			0.089			0.071		
Satd. Flow (perm)	3273	3374	1509	3273	3148	0	161	3397	0	126	3259	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		124			6			29	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1082			1233	
Travel Time (s)		7.1			5.8			21.1			24.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	505	420	48	74	346	282	48	957	80	239	963	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	505	420	48	74	628	0	48	1037	0	239	1245	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	36.0	53.0	53.0	20.0	37.0		13.0	51.0		26.0	64.0	
Total Split (%)	24.0%	35.3%	35.3%	13.3%	24.7%		8.7%	34.0%		17.3%	42.7%	
Maximum Green (s)	30.0	47.2	47.2	13.8	31.2		5.3	44.3		18.8	57.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	27.1	47.1	47.1	8.8	28.9		54.2	49.2		74.9	64.4	
Actuated g/C Ratio	0.18	0.31	0.31	0.06	0.19		0.36	0.33		0.50	0.43	
v/c Ratio	0.85	0.40	0.08	0.39	0.89		0.40	0.93		0.92	0.88	
Control Delay	73.9	41.0	0.3	73.4	62.4		34.0	63.0		80.1	48.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	73.9	41.0	0.3	73.4	62.4		34.0	63.0		80.1	48.2	
LOS	E	D	A	E	E		C	E		F	D	
Approach Delay		56.1			63.6			61.8			53.3	
Approach LOS		E			E			E			D	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 92 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 57.8 Intersection LOS: E
Intersection Capacity Utilization 92.0% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



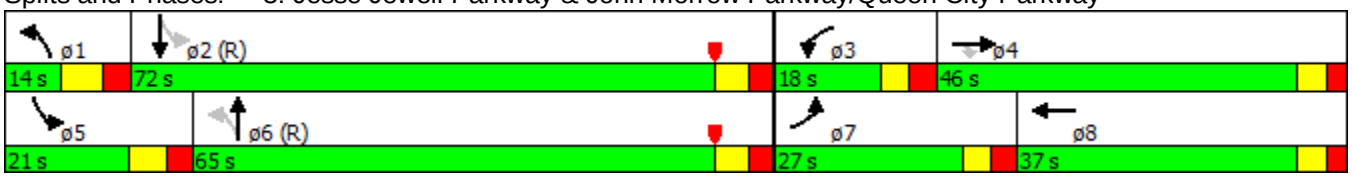
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	365	90	125	325	200	70	1025	170	170	980	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.943			0.979			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3212	0	1719	3366	0	1719	3290	0
Flt Permitted	0.950			0.950			0.064			0.065		
Satd. Flow (perm)	3303	3406	1524	3303	3212	0	116	3366	0	118	3290	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128		79			15			50	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1082			1233	
Travel Time (s)		7.1			5.8			21.1			24.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	443	376	93	129	335	206	72	1057	175	175	1010	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	443	376	93	129	541	0	72	1232	0	175	1412	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	27.0	46.0	46.0	18.0	37.0		14.0	65.0		21.0	72.0	
Total Split (%)	18.0%	30.7%	30.7%	12.0%	24.7%		9.3%	43.3%		14.0%	48.0%	
Maximum Green (s)	21.0	40.2	40.2	11.8	31.2		6.3	58.3		13.8	65.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	21.0	37.3	37.3	10.5	27.0		68.4	62.3		82.1	68.7	
Actuated g/C Ratio	0.14	0.25	0.25	0.07	0.18		0.46	0.42		0.55	0.46	
v/c Ratio	0.96	0.44	0.20	0.56	0.84		0.56	0.88		0.82	0.92	
Control Delay	96.1	49.1	3.2	76.7	62.9		41.0	48.8		63.0	47.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	96.1	49.1	3.2	76.7	62.9		41.0	48.8		63.0	47.8	
LOS	F	D	A	E	E		D	D		E	D	
Approach Delay		67.3			65.6			48.3			49.5	
Approach LOS		E			E			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 55.2 Intersection LOS: E
Intersection Capacity Utilization 93.1% ICU Level of Service F
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

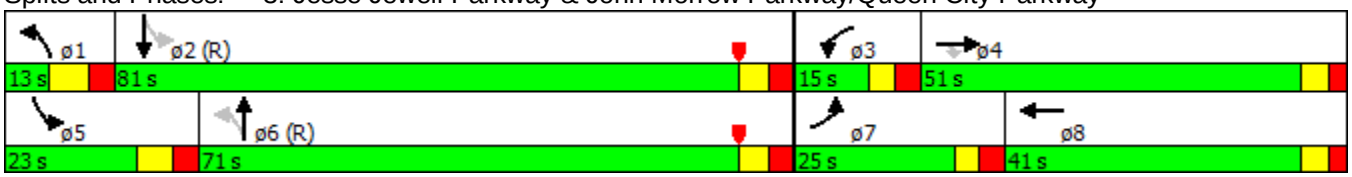


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	375	310	55	85	540	170	50	1020	105	220	995	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.964			0.986			0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3314	0	1752	3456	0	1736	3298	0
Flt Permitted	0.950			0.950			0.062			0.078		
Satd. Flow (perm)	3335	3438	1538	3335	3314	0	114	3456	0	142	3298	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		24			8			71	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1082			1233	
Travel Time (s)		7.1			5.8			21.1			24.0	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	383	316	56	87	551	173	51	1041	107	224	1015	500
Shared Lane Traffic (%)												
Lane Group Flow (vph)	383	316	56	87	724	0	51	1148	0	224	1515	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	25.0	51.0	51.0	15.0	41.0		13.0	71.0		23.0	81.0	
Total Split (%)	15.6%	31.9%	31.9%	9.4%	25.6%		8.1%	44.4%		14.4%	50.6%	
Maximum Green (s)	19.0	45.2	45.2	8.8	35.2		5.3	64.3		15.8	74.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	19.0	45.6	45.6	8.4	35.2		68.6	64.3		86.8	76.9	
Actuated g/C Ratio	0.12	0.28	0.28	0.05	0.22		0.43	0.40		0.54	0.48	
v/c Ratio	0.97	0.32	0.10	0.50	0.97		0.50	0.82		0.96	0.93	
Control Delay	106.7	46.3	0.4	83.8	85.3		37.6	48.6		86.7	49.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	106.7	46.3	0.4	83.8	85.3		37.6	48.6		86.7	49.3	
LOS	F	D	A	F	F		D	D		F	D	
Approach Delay		73.5			85.1			48.1			54.1	
Approach LOS		E			F			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 61.3	Intersection LOS: E
Intersection Capacity Utilization 100.1%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

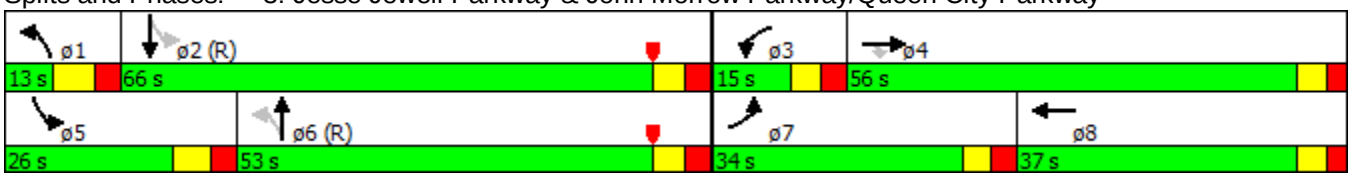


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	480	415	45	75	340	270	45	910	80	230	915	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.934			0.988			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3151	0	1719	3397	0	1687	3259	0
Flt Permitted	0.950			0.950			0.087			0.071		
Satd. Flow (perm)	3273	3374	1509	3273	3151	0	157	3397	0	126	3259	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		121			6			30	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1082			1233	
Travel Time (s)		7.1			5.8			21.1			24.0	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	511	441	48	80	362	287	48	968	85	245	973	287
Shared Lane Traffic (%)												
Lane Group Flow (vph)	511	441	48	80	649	0	48	1053	0	245	1260	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	34.0	56.0	56.0	15.0	37.0		13.0	53.0		26.0	66.0	
Total Split (%)	22.7%	37.3%	37.3%	10.0%	24.7%		8.7%	35.3%		17.3%	44.0%	
Maximum Green (s)	28.0	50.2	50.2	8.8	31.2		5.3	46.3		18.8	59.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	26.6	47.7	47.7	8.2	29.5		53.8	49.1		75.0	64.8	
Actuated g/C Ratio	0.18	0.32	0.32	0.05	0.20		0.36	0.33		0.50	0.43	
v/c Ratio	0.88	0.41	0.08	0.45	0.91		0.42	0.94		0.94	0.88	
Control Delay	77.5	41.1	0.3	76.7	64.8		34.6	65.5		83.9	48.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	77.5	41.1	0.3	76.7	64.8		34.6	65.5		83.9	48.1	
LOS	E	D	A	E	E		C	E		F	D	
Approach Delay		57.7			66.1			64.2			54.0	
Approach LOS		E			E			E			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 92 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.94	
Intersection Signal Delay: 59.5	Intersection LOS: E
Intersection Capacity Utilization 93.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

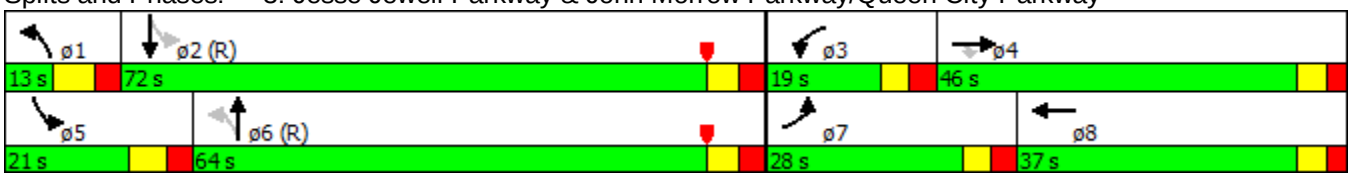


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	435	380	95	130	340	205	75	1035	175	175	990	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.944			0.978			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3215	0	1719	3362	0	1719	3290	0
Flt Permitted	0.950			0.950			0.066			0.059		
Satd. Flow (perm)	3303	3406	1524	3303	3215	0	119	3362	0	107	3290	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		75			15			50	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1082			1233	
Travel Time (s)		7.1			5.8			21.1			24.0	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	448	392	98	134	351	211	77	1067	180	180	1021	407
Shared Lane Traffic (%)												
Lane Group Flow (vph)	448	392	98	134	562	0	77	1247	0	180	1428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	28.0	46.0	46.0	19.0	37.0		13.0	64.0		21.0	72.0	
Total Split (%)	18.7%	30.7%	30.7%	12.7%	24.7%		8.7%	42.7%		14.0%	48.0%	
Maximum Green (s)	22.0	40.2	40.2	12.8	31.2		5.3	57.3		13.8	65.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	21.9	38.3	38.3	11.1	27.7		66.3	60.7		80.7	67.7	
Actuated g/C Ratio	0.15	0.26	0.26	0.07	0.18		0.44	0.40		0.54	0.45	
v/c Ratio	0.93	0.45	0.19	0.55	0.86		0.63	0.91		0.87	0.95	
Control Delay	89.9	48.6	0.8	75.6	64.7		47.9	52.8		73.8	51.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	89.9	48.6	0.8	75.6	64.7		47.9	52.8		73.8	51.7	
LOS	F	D	A	E	E		D	D		E	D	
Approach Delay		63.3			66.8			52.5			54.2	
Approach LOS		E			E			D			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 57.5	Intersection LOS: E
Intersection Capacity Utilization 94.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



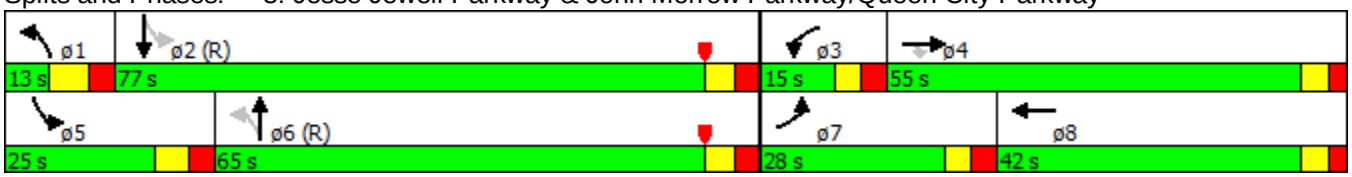
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	325	60	90	565	175	55	1030	110	225	1005	495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.964			0.986			0.951	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3314	0	1752	3456	0	1736	3301	0
Flt Permitted	0.950			0.950			0.068			0.061		
Satd. Flow (perm)	3335	3438	1538	3335	3314	0	125	3456	0	111	3301	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169		24			8			67	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1483			1966	
Travel Time (s)		7.1			5.8			28.9			38.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	388	332	61	92	577	179	56	1051	112	230	1026	505
Shared Lane Traffic (%)												
Lane Group Flow (vph)	388	332	61	92	756	0	56	1163	0	230	1531	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	28.0	55.0	55.0	15.0	42.0		13.0	65.0		25.0	77.0	
Total Split (%)	17.5%	34.4%	34.4%	9.4%	26.3%		8.1%	40.6%		15.6%	48.1%	
Maximum Green (s)	22.0	49.2	49.2	8.8	36.2		5.3	58.3		17.8	70.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	21.3	49.4	49.4	8.4	36.7		62.7	58.3		82.9	73.0	
Actuated g/C Ratio	0.13	0.31	0.31	0.05	0.23		0.39	0.36		0.52	0.46	
v/c Ratio	0.87	0.31	0.10	0.53	0.97		0.54	0.92		0.96	0.99	
Control Delay	88.2	43.4	0.3	84.8	84.2		43.5	60.6		95.1	62.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	88.2	43.4	0.3	84.8	84.2		43.5	60.6		95.1	62.3	
LOS	F	D	A	F	F		D	E		F	E	
Approach Delay		62.3			84.3			59.8			66.6	
Approach LOS		E			F			E			E	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 67.3 Intersection LOS: E
Intersection Capacity Utilization 101.5% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

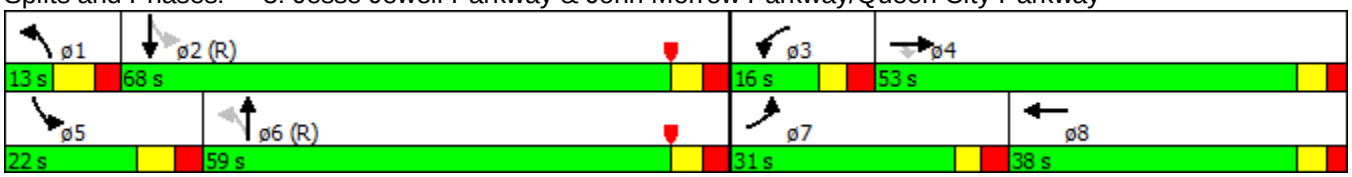


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	525	535	50	80	440	295	50	995	85	250	1000	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.940			0.988			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3171	0	1719	3397	0	1687	3259	0
Flt Permitted	0.950			0.950			0.076			0.067		
Satd. Flow (perm)	3273	3374	1509	3273	3171	0	138	3397	0	119	3259	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		98			6			31	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			2088			1966	
Travel Time (s)		7.1			5.8			40.7			38.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	559	569	53	85	468	314	53	1059	90	266	1064	314
Shared Lane Traffic (%)												
Lane Group Flow (vph)	559	569	53	85	782	0	53	1149	0	266	1378	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	31.0	53.0	53.0	16.0	38.0		13.0	59.0		22.0	68.0	
Total Split (%)	20.7%	35.3%	35.3%	10.7%	25.3%		8.7%	39.3%		14.7%	45.3%	
Maximum Green (s)	25.0	47.2	47.2	9.8	32.2		5.3	52.3		14.8	61.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	25.0	48.2	48.2	8.8	32.2		56.6	52.3		73.8	63.9	
Actuated g/C Ratio	0.17	0.32	0.32	0.06	0.21		0.38	0.35		0.49	0.43	
v/c Ratio	1.03	0.52	0.09	0.45	1.03		0.50	0.97		1.25	0.98	
Control Delay	105.3	43.9	0.3	75.6	90.8		38.2	66.9		181.4	61.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	105.3	43.9	0.3	75.6	90.8		38.2	66.9		181.4	61.3	
LOS	F	D	A	E	F		D	E		F	E	
Approach Delay		71.0			89.3			65.6			80.7	
Approach LOS		E			F			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 92 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.25	
Intersection Signal Delay: 76.2	Intersection LOS: E
Intersection Capacity Utilization 101.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

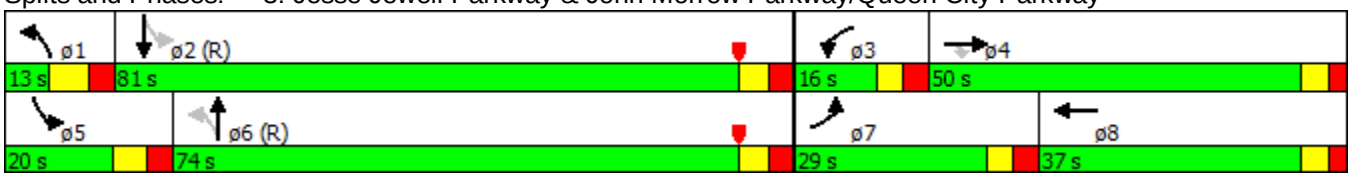


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	475	495	100	140	440	225	80	1135	190	190	1085	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.949			0.978			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3232	0	1719	3362	0	1719	3290	0
Flt Permitted	0.950			0.950			0.059			0.054		
Satd. Flow (perm)	3303	3406	1524	3303	3232	0	107	3362	0	98	3290	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		50			15			50	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			2088			1966	
Travel Time (s)		7.1			5.8			40.7			38.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	490	510	103	144	454	232	82	1170	196	196	1119	448
Shared Lane Traffic (%)												
Lane Group Flow (vph)	490	510	103	144	686	0	82	1366	0	196	1567	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	29.0	50.0	50.0	16.0	37.0		13.0	74.0		20.0	81.0	
Total Split (%)	18.1%	31.3%	31.3%	10.0%	23.1%		8.1%	46.3%		12.5%	50.6%	
Maximum Green (s)	23.0	44.2	44.2	9.8	31.2		5.3	67.3		12.8	74.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	23.0	44.4	44.4	9.6	31.2		71.6	67.3		86.6	74.3	
Actuated g/C Ratio	0.14	0.28	0.28	0.06	0.20		0.45	0.42		0.54	0.46	
v/c Ratio	1.03	0.54	0.20	0.72	1.02		0.81	0.96		1.08	1.01	
Control Delay	115.2	51.7	5.3	94.3	98.2		77.1	60.5		129.7	65.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	115.2	51.7	5.3	94.3	98.2		77.1	60.5		129.7	65.7	
LOS	F	D	A	F	F		E	E		F	E	
Approach Delay		75.6			97.6			61.5			72.8	
Approach LOS		E			F			E			E	

Intersection Summary	
Area Type: Other	
Cycle Length: 160	
Actuated Cycle Length: 160	
Offset: 86.3 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 74.2	Intersection LOS: E
Intersection Capacity Utilization 103.0%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

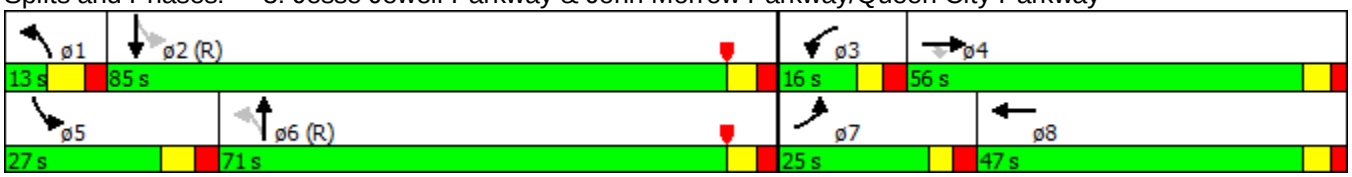


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	415	420	65	95	730	190	55	1130	120	245	1100	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.969			0.986			0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3332	0	1752	3456	0	1736	3298	0
Flt Permitted	0.950			0.950			0.062			0.056		
Satd. Flow (perm)	3335	3438	1538	3335	3332	0	114	3456	0	102	3298	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			159		18			8			67	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			2088			1966	
Travel Time (s)		7.1			5.8			40.7			38.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	423	429	66	97	745	194	56	1153	122	250	1122	556
Shared Lane Traffic (%)												
Lane Group Flow (vph)	423	429	66	97	939	0	56	1275	0	250	1678	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	25.0	56.0	56.0	16.0	47.0		13.0	71.0		27.0	85.0	
Total Split (%)	14.7%	32.9%	32.9%	9.4%	27.6%		7.6%	41.8%		15.9%	50.0%	
Maximum Green (s)	19.0	50.2	50.2	9.8	41.2		5.3	64.3		19.8	78.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	19.0	50.8	50.8	9.2	41.2		68.6	64.3		90.8	80.9	
Actuated g/C Ratio	0.11	0.30	0.30	0.05	0.24		0.40	0.38		0.53	0.48	
v/c Ratio	1.14	0.42	0.12	0.54	1.14		0.58	0.97		1.02	1.05	
Control Delay	153.4	49.4	0.4	89.5	133.4		48.9	70.1		114.3	76.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	153.4	49.4	0.4	89.5	133.4		48.9	70.1		114.3	76.5	
LOS	F	D	A	F	F		D	E		F	E	
Approach Delay		93.8			129.3			69.2			81.4	
Approach LOS		F			F			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 170	
Actuated Cycle Length: 170	
Offset: 91.3 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.14	
Intersection Signal Delay: 90.0	Intersection LOS: F
Intersection Capacity Utilization 111.8%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

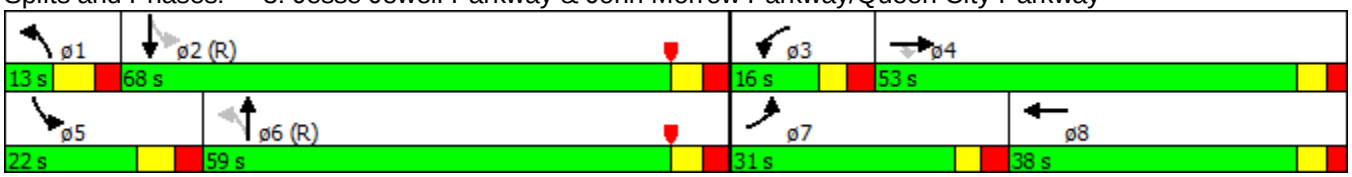


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	530	560	50	85	460	300	50	1005	90	255	1015	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.941			0.988			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3175	0	1719	3397	0	1687	3259	0
Flt Permitted	0.950			0.950			0.076			0.067		
Satd. Flow (perm)	3273	3374	1509	3273	3175	0	138	3397	0	119	3259	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180		92			7			31	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			1217			1362	
Travel Time (s)		7.1			5.8			23.7			26.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	564	596	53	90	489	319	53	1069	96	271	1080	319
Shared Lane Traffic (%)												
Lane Group Flow (vph)	564	596	53	90	808	0	53	1165	0	271	1399	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	31.0	53.0	53.0	16.0	38.0		13.0	59.0		22.0	68.0	
Total Split (%)	20.7%	35.3%	35.3%	10.7%	25.3%		8.7%	39.3%		14.7%	45.3%	
Maximum Green (s)	25.0	47.2	47.2	9.8	32.2		5.3	52.3		14.8	61.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	25.0	48.1	48.1	8.9	32.2		56.6	52.3		73.8	63.9	
Actuated g/C Ratio	0.17	0.32	0.32	0.06	0.21		0.38	0.35		0.49	0.43	
v/c Ratio	1.03	0.55	0.09	0.47	1.07		0.50	0.98		1.27	1.00	
Control Delay	107.4	44.5	0.3	76.1	102.5		38.2	69.6		190.1	64.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	107.4	44.5	0.3	76.1	102.5		38.2	69.6		190.1	64.7	
LOS	F	D	A	E	F		D	E		F	E	
Approach Delay		71.8			99.8			68.2			85.0	
Approach LOS		E			F			E			F	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 92 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 80.4	Intersection LOS: F
Intersection Capacity Utilization 103.6%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	485	515	105	145	460	230	85	1145	195	195	1095	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.950			0.978			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3235	0	1719	3362	0	1719	3290	0
Flt Permitted	0.950			0.950			0.059			0.054		
Satd. Flow (perm)	3303	3406	1524	3303	3235	0	107	3362	0	98	3290	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		48			15			50	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			2088			1966	
Travel Time (s)		7.1			5.8			40.7			38.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Parking (#/hr)												0
Adj. Flow (vph)	500	531	108	149	474	237	88	1180	201	201	1129	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	500	531	108	149	711	0	88	1381	0	201	1583	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4				6			2		
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	29.0	50.0	50.0	16.0	37.0		13.0	74.0		20.0	81.0	
Total Split (%)	18.1%	31.3%	31.3%	10.0%	23.1%		8.1%	46.3%		12.5%	50.6%	
Maximum Green (s)	23.0	44.2	44.2	9.8	31.2		5.3	67.3		12.8	74.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	23.0	44.3	44.3	9.7	31.2		71.6	67.3		86.6	74.3	
Actuated g/C Ratio	0.14	0.28	0.28	0.06	0.20		0.45	0.42		0.54	0.46	
v/c Ratio	1.05	0.56	0.21	0.74	1.06		0.87	0.97		1.10	1.02	
Control Delay	120.1	52.4	6.2	95.8	108.3		88.8	62.5		137.9	68.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	120.1	52.4	6.2	95.8	108.3		88.8	62.5		137.9	68.2	
LOS	F	D	A	F	F		F	E		F	E	
Approach Delay		77.7			106.1			64.1			76.0	
Approach LOS		E			F			E			E	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 86.3 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.10
Intersection Signal Delay: 78.0 Intersection LOS: E
Intersection Capacity Utilization 104.8% ICU Level of Service G
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

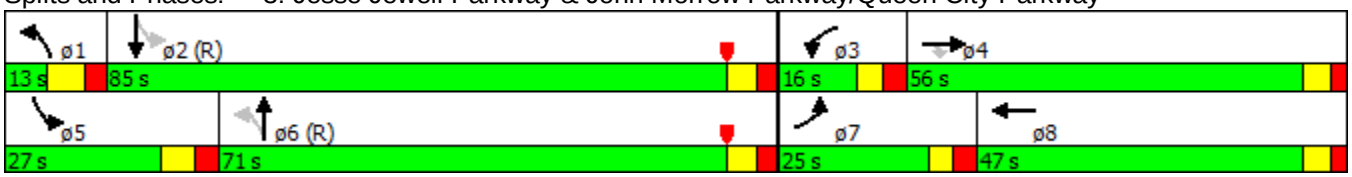
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	420	440	70	100	765	195	65	1140	125	250	1110	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		170	130		0	110		0	435		0
Storage Lanes	2		1	2		0	1		0	1		0
Taper Length (ft)	100			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.970			0.985			0.950	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3335	0	1752	3452	0	1736	3298	0
Flt Permitted	0.950			0.950			0.062			0.056		
Satd. Flow (perm)	3335	3438	1538	3335	3335	0	114	3452	0	102	3298	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			159		18			8			67	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		362			299			2088			1966	
Travel Time (s)		7.1			5.8			40.7			38.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	429	449	71	102	781	199	66	1163	128	255	1133	561
Shared Lane Traffic (%)												
Lane Group Flow (vph)	429	449	71	102	980	0	66	1291	0	255	1694	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4				6			2		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8		1	6		5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8		12.7	37.7		12.2	27.7	
Total Split (s)	25.0	56.0	56.0	16.0	47.0		13.0	71.0		27.0	85.0	
Total Split (%)	14.7%	32.9%	32.9%	9.4%	27.6%		7.6%	41.8%		15.9%	50.0%	
Maximum Green (s)	19.0	50.2	50.2	9.8	41.2		5.3	64.3		19.8	78.3	
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4		4.7	3.7		4.2	3.7	
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8		7.7	6.7		7.2	6.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		5.0	5.0		5.0			5.0			5.0	
Flash Dont Walk (s)		16.0	16.0		26.0			26.0			16.0	
Pedestrian Calls (#/hr)		6	6		6			6			6	
Act Effct Green (s)	19.0	50.7	50.7	9.3	41.2		68.6	64.3		90.8	78.3	
Actuated g/C Ratio	0.11	0.30	0.30	0.05	0.24		0.40	0.38		0.53	0.46	
v/c Ratio	1.15	0.44	0.12	0.56	1.19		0.68	0.99		1.05	1.09	
Control Delay	158.3	49.9	0.4	90.4	151.3		60.3	73.0		119.4	92.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	158.3	49.9	0.4	90.4	151.3		60.3	73.0		119.4	92.5	
LOS	F	D	A	F	F		E	E		F	F	
Approach Delay		95.2			145.5			72.4			96.1	
Approach LOS		F			F			E			F	

Intersection Summary

Area Type: Other
Cycle Length: 170
Actuated Cycle Length: 170
Offset: 91.3 (54%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.19
Intersection Signal Delay: 99.9 Intersection LOS: F
Intersection Capacity Utilization 113.6% ICU Level of Service H
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



Appendix F

No Build SimTraffic Outputs

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.2	0.3	2.4	0.4	0.5
Total Del/Veh (s)	62.8	36.6	7.5	69.1	54.2	38.8	96.6	83.0	71.2	55.4	42.7	34.6

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	55.7

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	59.0

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	WB	WB	WB	WB	B5
Directions Served	L	L	T	T	R	T	T	L	L	T	TR	T
Maximum Queue (ft)	250	276	354	247	124	165	61	98	222	300	330	47
Average Queue (ft)	197	215	185	134	21	14	2	17	73	195	214	3
95th Queue (ft)	277	296	335	221	70	83	28	62	171	285	318	24
Link Distance (ft)			277	277		234	234			222	222	110
Upstream Blk Time (%)		2	3	0		0			0	6	12	0
Queuing Penalty (veh)		0	0	0		0			0	0	0	0
Storage Bay Dist (ft)	200	200			170			130	130			
Storage Blk Time (%)	6	16	1	3					0	30		
Queuing Penalty (veh)	11	29	4	1					0	19		

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	B5	NB	NB	NB	SB	SB	SB
Directions Served	T	L	T	TR	L	T	TR
Maximum Queue (ft)	96	160	835	782	378	628	673
Average Queue (ft)	8	50	491	451	182	357	378
95th Queue (ft)	46	145	811	758	346	565	586
Link Distance (ft)	110		1009	1009		1182	1182
Upstream Blk Time (%)	0		0				
Queuing Penalty (veh)	0		0				
Storage Bay Dist (ft)		110			435		
Storage Blk Time (%)		0	60			4	
Queuing Penalty (veh)		2	24			8	

Network Summary

Network wide Queuing Penalty: 98

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.3	0.4	2.2	0.4	0.5
Total Del/Veh (s)	97.3	44.4	10.5	69.2	53.5	31.6	93.2	66.5	59.9	52.8	42.1	36.2

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	56.1

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	60.4

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	356	278	168	210	130	148	123	150	221	288
Average Queue (ft)	214	236	232	156	44	72	35	28	15	56	102	178
95th Queue (ft)	286	309	403	268	112	255	162	178	114	128	191	268
Link Distance (ft)			277	277		234	234	997	997			222
Upstream Blk Time (%)		10	16	0		6	0				0	3
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	21	37	4	4						0	3	24
Queuing Penalty (veh)	35	61	16	3						1	5	29

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	296	36	24	160	823	797	484	652	647
Average Queue (ft)	176	2	2	72	515	482	139	396	413
95th Queue (ft)	277	22	17	164	837	795	316	567	592
Link Distance (ft)	222	110	110		1009	1009		1182	1182
Upstream Blk Time (%)	3	0			0	0			
Queuing Penalty (veh)	0	0			0	0			
Storage Bay Dist (ft)				110			435		
Storage Blk Time (%)				4	51			5	
Queuing Penalty (veh)				21	33			9	

Network Summary

Network wide Queuing Penalty: 214

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.2	0.3	2.2	0.5	0.6
Total Del/Veh (s)	111.5	44.8	8.6	101.2	72.0	61.3	63.9	43.1	32.6	60.2	38.5	36.4

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	52.8

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	57.5

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	WB	WB	WB	WB	B5
Directions Served	L	L	T	T	R	T	T	L	L	T	TR	T
Maximum Queue (ft)	249	275	331	266	77	134	77	107	222	333	327	198
Average Queue (ft)	199	221	186	124	26	17	5	33	115	288	264	90
95th Queue (ft)	281	302	356	231	60	92	48	90	245	348	340	211
Link Distance (ft)			277	277		234	234			222	222	110
Upstream Blk Time (%)		5	7	0		0	0		0	37	27	9
Queuing Penalty (veh)		0	0	0		0	0		0	0	0	0
Storage Bay Dist (ft)	200	200			170			130	130			
Storage Blk Time (%)	12	28	3	0				0	1	59		
Queuing Penalty (veh)	18	40	11	0				0	2	47		

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	175	101	61	160	580	548	482	648	703
Average Queue (ft)	53	14	3	48	377	341	199	381	432
95th Queue (ft)	151	70	35	132	534	495	413	601	662
Link Distance (ft)	110	427	427		1009	1009		1182	1182
Upstream Blk Time (%)	3								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)				110			435		
Storage Blk Time (%)				0	45		0	5	
Queuing Penalty (veh)				0	20		0	11	

Network Summary

Network wide Queuing Penalty: 150

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.2	0.3	2.3	0.3	0.5
Total Del/Veh (s)	62.5	37.9	9.5	70.7	54.3	38.7	110.2	92.2	83.3	60.0	44.2	35.8

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	59.0

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	62.3

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	WB	WB	WB	WB	B5
Directions Served	L	L	T	T	R	T	T	L	L	T	TR	T
Maximum Queue (ft)	250	277	337	255	219	115	42	108	222	311	316	90
Average Queue (ft)	195	213	171	138	30	9	1	22	83	197	216	4
95th Queue (ft)	270	288	314	226	97	63	22	73	190	298	319	35
Link Distance (ft)			277	277		234	234			222	222	110
Upstream Blk Time (%)		2	2	0		0			0	7	12	0
Queuing Penalty (veh)		0	0	0		0			0	0	0	0
Storage Bay Dist (ft)	200	200			170			130	130			
Storage Blk Time (%)	6	17	1	3	0			0	0	31		
Queuing Penalty (veh)	12	33	7	2	0			0	0	22		

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	B5	B9	NB	NB	NB	SB	SB	SB
Directions Served	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	89	9	160	785	746	457	690	656
Average Queue (ft)	8	0	55	538	503	215	371	390
95th Queue (ft)	54	6	147	811	768	399	569	581
Link Distance (ft)	110	427		1009	1009		1182	1182
Upstream Blk Time (%)	1							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)			110			435		
Storage Blk Time (%)			1	63		0	4	
Queuing Penalty (veh)			4	29		0	10	

Network Summary

Network wide Queuing Penalty: 119

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.3	0.4	2.2	0.5	0.6
Total Del/Veh (s)	120.7	47.0	12.3	75.2	55.6	38.0	92.1	62.6	57.1	62.4	54.8	50.5

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	62.2

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	72.0

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	351	297	219	256	177	250	210	156	222	306
Average Queue (ft)	220	244	262	162	60	102	26	173	159	61	120	206
95th Queue (ft)	287	319	419	279	152	316	133	761	727	144	222	302
Link Distance (ft)			277	277		234	234	997	997			222
Upstream Blk Time (%)		20	26	1		17	0	9	3		0	8
Queuing Penalty (veh)		0	0	0		0	0	0	0		0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	27	47	6	6	0					0	6	32
Queuing Penalty (veh)	49	85	24	5	0					1	10	40

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	314	102	72	160	824	797	458	807	836
Average Queue (ft)	196	7	6	76	482	462	220	477	510
95th Queue (ft)	296	48	39	162	790	767	486	786	805
Link Distance (ft)	222	110	110		1009	1009		1182	1182
Upstream Blk Time (%)	8	0	0		1	0			
Queuing Penalty (veh)	0	0	0		0	0			
Storage Bay Dist (ft)				110			435		
Storage Blk Time (%)				7	50		0	15	
Queuing Penalty (veh)				35	35		0	26	

Network Summary

Network wide Queuing Penalty: 309

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.2	0.3	2.1	0.5	0.6
Total Del/Veh (s)	124.1	43.5	8.2	116.4	82.7	70.6	71.5	47.2	38.3	60.1	45.2	43.4

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	59.4

Total Network Performance

Denied Del/Veh (s)	1.6
Total Del/Veh (s)	71.7

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	352	263	102	193	137	65	56	123	222	340
Average Queue (ft)	207	227	214	139	28	47	28	9	4	45	139	299
95th Queue (ft)	277	299	382	246	70	204	143	72	52	108	266	334
Link Distance (ft)			277	277		234	234	997	997			222
Upstream Blk Time (%)		9	14	0		4	0				0	53
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	22	34	3	1						0	3	67
Queuing Penalty (veh)	34	53	11	1						0	7	56

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	326	205	183	244	196	160	655	600	484	763	846
Average Queue (ft)	289	141	108	120	98	65	399	366	216	450	496
95th Queue (ft)	350	253	233	393	378	155	569	526	430	694	734
Link Distance (ft)	222	110	110	427	427		1009	1009		1182	1182
Upstream Blk Time (%)	47	31	22	10	11						
Queuing Penalty (veh)	0	0	0	0	0						
Storage Bay Dist (ft)						110			435		
Storage Blk Time (%)						1	46			8	
Queuing Penalty (veh)						6	23			18	

Network Summary

Network wide Queuing Penalty: 210

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.2	0.4	0.6	2.4	0.4	0.5
Total Del/Veh (s)	62.7	36.8	9.1	84.1	58.0	44.3	114.4	101.0	94.8	62.5	42.6	34.4

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	61.9

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	65.5

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	WB	WB	WB	WB	B5
Directions Served	L	L	T	T	R	T	T	L	L	T	TR	T
Maximum Queue (ft)	250	277	342	268	127	181	131	109	222	319	330	113
Average Queue (ft)	203	218	185	150	25	17	5	32	104	224	243	12
95th Queue (ft)	279	302	339	241	91	93	51	91	218	317	336	60
Link Distance (ft)			277	277		234	234			222	222	110
Upstream Blk Time (%)		3	3	0		0	0		0	12	18	0
Queuing Penalty (veh)		0	0	0		0	0		0	0	0	0
Storage Bay Dist (ft)	200	200			170			130	130			
Storage Blk Time (%)	8	20	2	4				0	0	39		
Queuing Penalty (veh)	17	41	9	2				0	1	29		

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	B5	NB	NB	NB	SB	SB	SB
Directions Served	T	L	T	TR	L	T	TR
Maximum Queue (ft)	146	160	827	787	465	624	641
Average Queue (ft)	17	56	591	551	210	366	382
95th Queue (ft)	77	151	971	921	382	545	560
Link Distance (ft)	110		1009	1009		1182	1182
Upstream Blk Time (%)	1		2	1			
Queuing Penalty (veh)	0		0	0			
Storage Bay Dist (ft)		110			435		
Storage Blk Time (%)		0	63		0	4	
Queuing Penalty (veh)		1	28		2	8	

Network Summary

Network wide Queuing Penalty: 137

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.4	0.5	2.2	0.4	0.6
Total Del/Veh (s)	102.9	41.8	9.1	73.5	55.6	39.0	117.9	83.6	74.9	65.6	55.9	53.7

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	66.4

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	70.3

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	350	268	152	263	159	64	54	144	222	317
Average Queue (ft)	219	242	253	161	44	69	33	6	2	61	125	220
95th Queue (ft)	284	313	405	262	104	241	143	55	38	135	232	315
Link Distance (ft)			277	277		234	234	997	997			222
Upstream Blk Time (%)		11	16	0		2	0				0	10
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	18	38	6	4						1	4	35
Queuing Penalty (veh)	34	72	24	3						1	6	45

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	314	122	86	159	946	909	485	951	993
Average Queue (ft)	210	11	6	76	615	581	207	499	535
95th Queue (ft)	301	62	45	166	941	905	448	805	830
Link Distance (ft)	222	110	110		1009	1009		1182	1182
Upstream Blk Time (%)	9	0	0		2	1		0	0
Queuing Penalty (veh)	0	0	0		0	0		0	0
Storage Bay Dist (ft)				110			435		
Storage Blk Time (%)				5	56			14	
Queuing Penalty (veh)				25	42			25	

Network Summary

Network wide Queuing Penalty: 278

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.2	0.3	1.7	0.4	0.5
Total Del/Veh (s)	96.8	39.2	7.5	109.5	77.5	69.2	110.1	63.7	55.7	97.0	78.3	79.7

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	74.1

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	84.8

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	WB	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	L	L	T	TR
Maximum Queue (ft)	247	273	310	256	107	148	94	33	121	221	329	329
Average Queue (ft)	190	207	171	136	28	29	13	1	37	125	292	300
95th Queue (ft)	274	295	339	242	70	144	94	21	91	260	339	339
Link Distance (ft)			278	278		234	234	1312			221	221
Upstream Blk Time (%)		6	8	0		1	0			0	45	52
Queuing Penalty (veh)		0	0	0		0	0			0	0	0
Storage Bay Dist (ft)	200	200			170				130	130		
Storage Blk Time (%)	13	22	2	3					0	2	62	
Queuing Penalty (veh)	21	35	6	2					0	5	55	

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	B5	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	T	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	195	202	249	246	160	686	633	485	1174	1198
Average Queue (ft)	108	120	86	97	75	464	447	319	694	730
95th Queue (ft)	235	248	342	361	166	680	659	573	1318	1343
Link Distance (ft)	110	110	2218	2218		1411	1411		1914	1914
Upstream Blk Time (%)	23	27							0	0
Queuing Penalty (veh)	0	0							0	0
Storage Bay Dist (ft)					110			435		
Storage Blk Time (%)					7	54		0	24	
Queuing Penalty (veh)					34	30		2	55	

Network Summary

Network wide Queuing Penalty: 245

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.2	0.2	1.6	0.3	0.4
Total Del/Veh (s)	113.0	38.4	10.1	83.4	65.2	63.2	117.2	93.5	83.1	117.4	57.6	53.6

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	74.8

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	83.5

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	363	334	197	312	244	237	169	93	221	326
Average Queue (ft)	238	264	307	209	36	170	98	56	31	30	111	260
95th Queue (ft)	267	300	412	310	128	379	268	239	171	71	252	341
Link Distance (ft)			278	278		234	234	1312	1312			221
Upstream Blk Time (%)		21	33	2		12	0				0	25
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	39	56	9	11						0	0	49
Queuing Penalty (veh)	102	146	48	5						0	0	38

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	344	155	209	40	115	160	904	899	485	901	922
Average Queue (ft)	291	39	77	7	20	51	560	561	323	504	515
95th Queue (ft)	353	140	205	59	100	124	929	923	560	864	859
Link Distance (ft)	221	110	110	2218	2218		2016	2016		1914	1914
Upstream Blk Time (%)	42	4	12								
Queuing Penalty (veh)	0	0	0								
Storage Bay Dist (ft)						110			435		
Storage Blk Time (%)						0	61		7	13	
Queuing Penalty (veh)						2	30		34	31	

Network Summary

Network wide Queuing Penalty: 438

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.3	0.4	1.7	0.5	0.5
Total Del/Veh (s)	151.7	47.5	12.0	140.4	93.5	81.9	235.9	166.9	160.5	95.2	70.6	69.2

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	108.4

Total Network Performance

Denied Del/Veh (s)	0.4
Total Del/Veh (s)	122.9

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	366	335	220	330	246	509	452	176	221	328
Average Queue (ft)	234	263	309	221	85	200	89	202	166	98	175	295
95th Queue (ft)	277	307	421	336	216	412	260	710	639	175	275	347
Link Distance (ft)			278	278		234	234	1312	1312			221
Upstream Blk Time (%)		35	46	3		30	0				2	51
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	48	66	10	16	0					7	19	65
Queuing Penalty (veh)	117	162	49	16	0					15	42	90

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	340	216	214	211	251	160	1626	1622	485	1197	1215
Average Queue (ft)	304	129	144	53	73	101	1159	1149	310	676	705
95th Queue (ft)	349	249	261	179	223	186	1795	1759	569	1091	1108
Link Distance (ft)	221	110	110	2218	2218		2016	2016		1914	1914
Upstream Blk Time (%)	62	25	33				1	1			
Queuing Penalty (veh)	0	0	0				0	0			
Storage Bay Dist (ft)						110			435		
Storage Blk Time (%)						17	57		0	26	
Queuing Penalty (veh)						95	45		0	48	

Network Summary

Network wide Queuing Penalty: 678

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.2	0.3	18.9	17.7	17.4
Total Del/Veh (s)	246.1	52.0	9.7	135.3	92.3	85.8	161.0	130.0	126.7	185.5	151.9	156.4

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	7.0
Total Del/Veh (s)	135.4

Total Network Performance

Denied Del/Veh (s)	8.9
Total Del/Veh (s)	214.0

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	361	337	220	335	234	1245	1188	127	221	330
Average Queue (ft)	242	272	336	197	49	295	69	718	663	42	125	305
95th Queue (ft)	267	283	349	322	157	377	232	1473	1428	97	262	319
Link Distance (ft)			278	278		234	234	1312	1312			221
Upstream Blk Time (%)		58	77	4		73	0	10	4		0	73
Queuing Penalty (veh)		0	0	0		0	0	0	0		0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	74	89	5	15						0	2	75
Queuing Penalty (veh)	154	185	22	9						0	8	71

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	335	228	224	1774	1770	160	1267	1236	485	1873	1864
Average Queue (ft)	307	190	191	1054	1057	57	841	832	409	1436	1452
95th Queue (ft)	321	218	223	2222	2201	137	1355	1332	612	2199	2197
Link Distance (ft)	221	110	110	2218	2218		2016	2016		1914	1914
Upstream Blk Time (%)	76	71	74	8	8					13	14
Queuing Penalty (veh)	0	0	0	0	0					0	0
Storage Bay Dist (ft)						110			435		
Storage Blk Time (%)						1	60		6	41	
Queuing Penalty (veh)						7	33		34	100	

Network Summary

Network wide Queuing Penalty: 625

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.8	0.7	2.1	0.4	0.5
Total Del/Veh (s)	123.8	38.1	12.3	101.4	81.9	69.4	142.1	113.4	100.9	100.3	60.3	55.9

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	82.7

Total Network Performance

Denied Del/Veh (s)	1.7
Total Del/Veh (s)	100.3

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	362	317	220	318	243	627	552	117	222	340
Average Queue (ft)	236	264	313	212	47	198	92	207	159	35	130	295
95th Queue (ft)	273	302	412	313	157	409	264	698	606	91	261	351
Link Distance (ft)			278	278		234	234	997	997			222
Upstream Blk Time (%)		27	41	2		27	1	0	0		0	51
Queuing Penalty (veh)		0	0	0		0	0	0	0		0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	41	61	8	12	0					0	1	64
Queuing Penalty (veh)	113	167	41	6	0					0	2	53

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	348	213	217	272	290	160	923	903	485	856	856
Average Queue (ft)	302	121	125	118	117	63	683	657	330	526	534
95th Queue (ft)	359	256	256	375	385	152	1091	1064	567	867	846
Link Distance (ft)	222	110	110	427	427		1145	1145		1310	1310
Upstream Blk Time (%)	56	32	33	5	8		4	3			
Queuing Penalty (veh)	0	0	0	0	0		0	0			
Storage Bay Dist (ft)						110			435		
Storage Blk Time (%)						2	63		4	16	
Queuing Penalty (veh)						9	31		21	40	

Network Summary

Network wide Queuing Penalty: 484

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.0	1.2	1.8	0.7	0.9
Total Del/Veh (s)	178.0	52.0	15.2	147.4	99.3	86.4	225.5	146.7	148.5	127.0	77.3	77.7

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	110.0

Total Network Performance

Denied Del/Veh (s)	2.2
Total Del/Veh (s)	139.7

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	369	345	220	336	273	1210	1175	175	221	330
Average Queue (ft)	241	271	336	241	89	281	80	647	585	95	180	301
95th Queue (ft)	261	285	375	359	219	415	248	1385	1325	169	275	328
Link Distance (ft)			278	278		234	234	1312	1312			221
Upstream Blk Time (%)		45	66	8		63	1	10	5		3	61
Queuing Penalty (veh)		0	0	0		0	0	0	0		0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	59	81	9	22	0					6	20	72
Queuing Penalty (veh)	150	206	41	23	0					13	46	103

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	340	218	230	337	367	160	1411	1401	485	1241	1280
Average Queue (ft)	309	154	168	110	137	101	1036	1027	320	718	746
95th Queue (ft)	334	255	259	311	358	184	2044	2019	586	1289	1299
Link Distance (ft)	221	110	110	2218	2218		2016	2016		1914	1914
Upstream Blk Time (%)	71	38	47				6	5		1	1
Queuing Penalty (veh)	0	0	0				0	0		0	0
Storage Bay Dist (ft)						110			435		
Storage Blk Time (%)						23	53		5	26	
Queuing Penalty (veh)						130	45		29	50	

Network Summary

Network wide Queuing Penalty: 836

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.3	0.3	55.9	52.3	52.8
Total Del/Veh (s)	247.6	54.3	12.2	136.3	94.0	82.2	224.3	172.4	161.3	208.7	185.0	190.2

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	20.5
Total Del/Veh (s)	159.4

Total Network Performance

Denied Del/Veh (s)	27.3
Total Del/Veh (s)	264.9

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	250	277	363	334	219	332	280	1356	1349	128	221	338
Average Queue (ft)	241	272	338	212	62	305	80	851	785	44	129	306
95th Queue (ft)	259	280	353	343	180	329	260	1633	1597	99	261	324
Link Distance (ft)			278	278		234	234	1312	1312			221
Upstream Blk Time (%)		56	79	6		76	2	27	7		0	74
Queuing Penalty (veh)		0	0	0		0	0	0	0		0	0
Storage Bay Dist (ft)	200	200			170					130	130	
Storage Blk Time (%)	75	90	7	17						0	1	76
Queuing Penalty (veh)	163	197	29	12						2	4	74

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	B9	NB	NB	NB	SB	SB	SB
Directions Served	TR	T	T	T	T	L	T	TR	L	T	TR
Maximum Queue (ft)	342	224	220	2267	2259	160	1503	1460	485	1955	1925
Average Queue (ft)	310	192	194	1598	1583	86	1087	1074	424	1724	1730
95th Queue (ft)	327	211	212	2571	2536	174	1770	1738	604	2286	2273
Link Distance (ft)	221	110	110	2218	2218		2016	2016		1914	1914
Upstream Blk Time (%)	76	76	78	19	17					31	35
Queuing Penalty (veh)	0	0	0	0	0					0	0
Storage Bay Dist (ft)						110			435		
Storage Blk Time (%)						6	61		1	47	
Queuing Penalty (veh)						36	40		4	116	

Network Summary

Network wide Queuing Penalty: 676

Appendix G

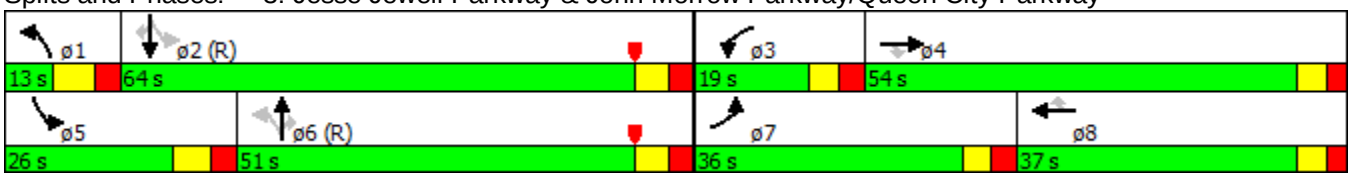
Build Synchro Outputs

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	475	395	45	70	325	265	45	900	75	225	905	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3374	1509	1719	3438	1538	1687	3374	1509
Flt Permitted	0.950			0.950			0.239			0.114		
Satd. Flow (perm)	3273	3374	1509	3273	3374	1509	432	3438	1538	202	3374	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			224			217			190
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	505	420	48	74	346	282	48	957	80	239	963	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	505	420	48	74	346	282	48	957	80	239	963	282
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	36.0	54.0	54.0	19.0	37.0	37.0	13.0	51.0	51.0	26.0	64.0	64.0
Total Split (%)	24.0%	36.0%	36.0%	12.7%	24.7%	24.7%	8.7%	34.0%	34.0%	17.3%	42.7%	42.7%
Maximum Green (s)	30.0	48.2	48.2	12.8	31.2	31.2	5.3	44.3	44.3	18.8	57.3	57.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	27.1	40.6	40.6	8.8	22.4	22.4	59.6	53.9	53.9	81.4	70.2	70.2
Actuated g/C Ratio	0.18	0.27	0.27	0.06	0.15	0.15	0.40	0.36	0.36	0.54	0.47	0.47
v/c Ratio	0.85	0.46	0.09	0.39	0.69	0.68	0.21	0.77	0.12	0.76	0.61	0.35
Control Delay	73.9	46.5	0.3	73.4	67.1	21.9	23.3	49.3	0.3	43.7	34.2	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	46.5	0.3	73.4	67.1	21.9	23.3	49.3	0.3	43.7	34.2	11.1
LOS	E	D	A	E	E	C	C	D	A	D	C	B
Approach Delay		58.4			49.6			44.6			31.3	
Approach LOS		E			D			D			C	

Intersection Summary	
Area Type: Other	
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 92 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.85	
Intersection Signal Delay: 44.0	Intersection LOS: D
Intersection Capacity Utilization 81.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



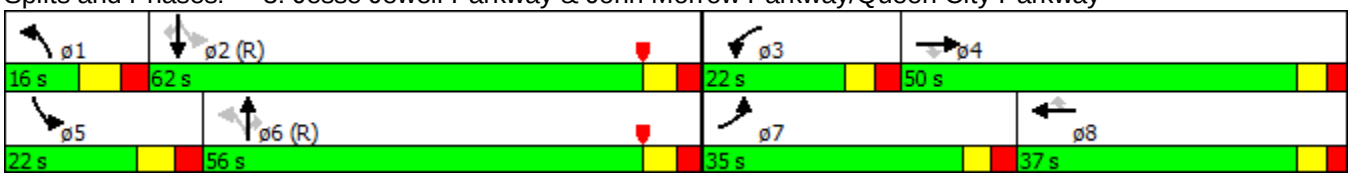
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	430	365	90	125	325	200	70	1025	170	170	980	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3406	1524	1719	3438	1538	1719	3438	1538
Flt Permitted	0.950			0.950			0.190			0.122		
Satd. Flow (perm)	3303	3406	1524	3303	3406	1524	344	3438	1538	221	3438	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			172			165			253
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	443	376	93	129	335	206	72	1057	175	175	1010	402
Shared Lane Traffic (%)												
Lane Group Flow (vph)	443	376	93	129	335	206	72	1057	175	175	1010	402
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	35.0	50.0	50.0	22.0	37.0	37.0	16.0	56.0	56.0	22.0	62.0	62.0
Total Split (%)	23.3%	33.3%	33.3%	14.7%	24.7%	24.7%	10.7%	37.3%	37.3%	14.7%	41.3%	41.3%
Maximum Green (s)	29.0	44.2	44.2	15.8	31.2	31.2	8.3	49.3	49.3	14.8	55.3	55.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	24.8	35.0	35.0	11.2	21.6	21.6	70.3	63.4	63.4	83.0	69.4	69.4
Actuated g/C Ratio	0.17	0.23	0.23	0.07	0.14	0.14	0.47	0.42	0.42	0.55	0.46	0.46
v/c Ratio	0.81	0.47	0.21	0.52	0.69	0.56	0.31	0.73	0.23	0.66	0.63	0.47
Control Delay	72.3	50.6	3.1	74.2	67.7	18.2	22.0	41.6	6.5	32.0	34.8	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.3	50.6	3.1	74.2	67.7	18.2	22.0	41.6	6.5	32.0	34.8	13.0
LOS	E	D	A	E	E	B	C	D	A	C	C	B
Approach Delay		56.3			53.7			35.8			28.9	
Approach LOS		E			D			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 40.2 Intersection LOS: D
Intersection Capacity Utilization 80.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



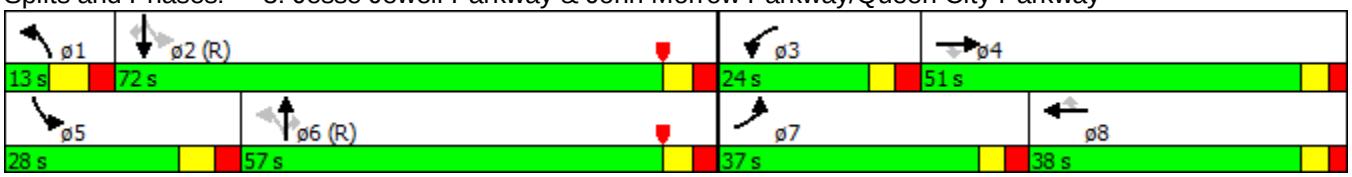
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	375	310	55	85	540	170	50	1020	105	220	995	490
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3438	1538	1752	3505	1568	1736	3471	1553
Flt Permitted	0.950			0.950			0.205			0.097		
Satd. Flow (perm)	3335	3438	1538	3335	3438	1538	378	3505	1568	177	3471	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			210			204			313
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	383	316	56	87	551	173	51	1041	107	224	1015	500
Shared Lane Traffic (%)												
Lane Group Flow (vph)	383	316	56	87	551	173	51	1041	107	224	1015	500
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	37.0	51.0	51.0	24.0	38.0	38.0	13.0	57.0	57.0	28.0	72.0	72.0
Total Split (%)	23.1%	31.9%	31.9%	15.0%	23.8%	23.8%	8.1%	35.6%	35.6%	17.5%	45.0%	45.0%
Maximum Green (s)	31.0	45.2	45.2	17.8	32.2	32.2	5.3	50.3	50.3	20.8	65.3	65.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	23.6	44.7	44.7	9.6	30.9	30.9	66.3	60.7	60.7	86.5	75.3	75.3
Actuated g/C Ratio	0.15	0.28	0.28	0.06	0.19	0.19	0.41	0.38	0.38	0.54	0.47	0.47
v/c Ratio	0.78	0.33	0.10	0.44	0.83	0.37	0.24	0.78	0.15	0.79	0.62	0.56
Control Delay	76.9	45.9	0.4	79.1	73.3	4.8	24.5	50.4	0.4	52.4	35.9	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.9	45.9	0.4	79.1	73.3	4.8	24.5	50.4	0.4	52.4	35.9	14.5
LOS	E	D	A	E	E	A	C	D	A	D	D	B
Approach Delay		58.3			59.3			44.9			31.9	
Approach LOS		E			E			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 44.7 Intersection LOS: D
Intersection Capacity Utilization 87.3% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



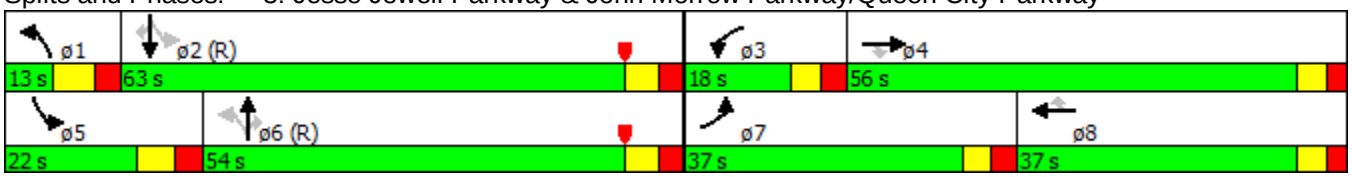
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	480	415	45	75	340	270	45	910	80	230	915	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3374	1509	1719	3438	1538	1687	3374	1509
Flt Permitted	0.950			0.950			0.251			0.082		
Satd. Flow (perm)	3273	3374	1509	3273	3374	1509	454	3438	1538	146	3374	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			224			217			190
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	511	441	48	80	362	287	48	968	85	245	973	287
Shared Lane Traffic (%)												
Lane Group Flow (vph)	511	441	48	80	362	287	48	968	85	245	973	287
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	37.0	56.0	56.0	18.0	37.0	37.0	13.0	54.0	54.0	22.0	63.0	63.0
Total Split (%)	24.7%	37.3%	37.3%	12.0%	24.7%	24.7%	8.7%	36.0%	36.0%	14.7%	42.0%	42.0%
Maximum Green (s)	31.0	50.2	50.2	11.8	31.2	31.2	5.3	47.3	47.3	14.8	56.3	56.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	27.7	41.4	41.4	9.0	22.9	22.9	54.4	48.7	48.7	80.3	69.1	69.1
Actuated g/C Ratio	0.18	0.28	0.28	0.06	0.15	0.15	0.36	0.32	0.32	0.54	0.46	0.46
v/c Ratio	0.85	0.47	0.09	0.41	0.70	0.68	0.22	0.87	0.13	0.73	0.63	0.36
Control Delay	72.5	46.1	0.3	73.6	67.3	22.6	23.9	57.3	0.4	49.7	35.4	11.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	72.5	46.1	0.3	73.6	67.3	22.6	23.9	57.3	0.4	49.7	35.4	11.7
LOS	E	D	A	E	E	C	C	E	A	D	D	B
Approach Delay		57.4			50.4			51.4			33.2	
Approach LOS		E			D			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 92 (61%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 46.3 Intersection LOS: D
Intersection Capacity Utilization 82.2% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

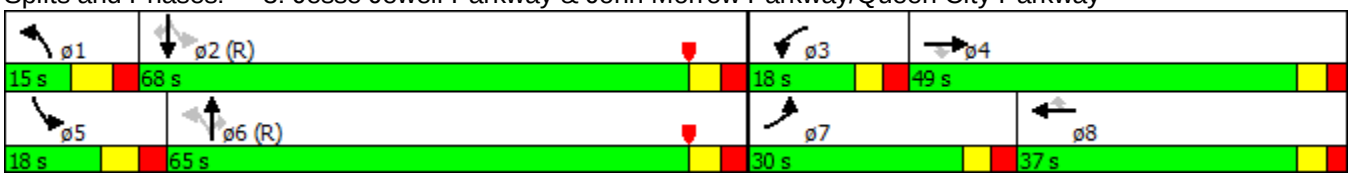


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	435	380	95	130	340	205	75	1035	175	175	990	395
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3406	1524	1719	3438	1538	1719	3438	1538
Flt Permitted	0.950			0.950			0.188			0.125		
Satd. Flow (perm)	3303	3406	1524	3303	3406	1524	340	3438	1538	226	3438	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			172			165			271
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	448	392	98	134	351	211	77	1067	180	180	1021	407
Shared Lane Traffic (%)												
Lane Group Flow (vph)	448	392	98	134	351	211	77	1067	180	180	1021	407
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	30.0	49.0	49.0	18.0	37.0	37.0	15.0	65.0	65.0	18.0	68.0	68.0
Total Split (%)	20.0%	32.7%	32.7%	12.0%	24.7%	24.7%	10.0%	43.3%	43.3%	12.0%	45.3%	45.3%
Maximum Green (s)	24.0	43.2	43.2	11.8	31.2	31.2	7.3	58.3	58.3	10.8	61.3	61.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	23.1	34.4	34.4	10.7	22.1	22.1	71.8	64.9	64.9	84.2	70.7	70.7
Actuated g/C Ratio	0.15	0.23	0.23	0.07	0.15	0.15	0.48	0.43	0.43	0.56	0.47	0.47
v/c Ratio	0.88	0.50	0.22	0.57	0.70	0.57	0.33	0.72	0.24	0.67	0.63	0.47
Control Delay	81.0	52.0	3.7	77.2	67.9	18.9	20.9	39.6	6.1	32.0	33.2	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.0	52.0	3.7	77.2	67.9	18.9	20.9	39.6	6.1	32.0	33.2	11.1
LOS	F	D	A	E	E	B	C	D	A	C	C	B
Approach Delay		60.8			54.8			34.0			27.5	
Approach LOS		E			D			C			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 40.4	Intersection LOS: D
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



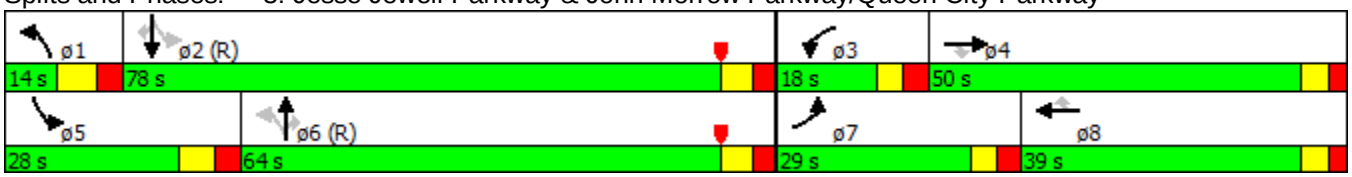
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	325	60	90	565	175	55	1030	110	225	1005	495
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3438	1538	1752	3505	1568	1736	3471	1553
Flt Permitted	0.950			0.950			0.205			0.103		
Satd. Flow (perm)	3335	3438	1538	3335	3438	1538	378	3505	1568	188	3471	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			210			204			334
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	388	332	61	92	577	179	56	1051	112	230	1026	505
Shared Lane Traffic (%)												
Lane Group Flow (vph)	388	332	61	92	577	179	56	1051	112	230	1026	505
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	29.0	50.0	50.0	18.0	39.0	39.0	14.0	64.0	64.0	28.0	78.0	78.0
Total Split (%)	18.1%	31.3%	31.3%	11.3%	24.4%	24.4%	8.8%	40.0%	40.0%	17.5%	48.8%	48.8%
Maximum Green (s)	23.0	44.2	44.2	11.8	33.2	33.2	6.3	57.3	57.3	20.8	71.3	71.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	21.9	43.2	43.2	9.7	31.2	31.2	68.2	62.8	62.8	87.9	77.1	77.1
Actuated g/C Ratio	0.14	0.27	0.27	0.06	0.20	0.20	0.43	0.39	0.39	0.55	0.48	0.48
v/c Ratio	0.85	0.36	0.11	0.46	0.86	0.38	0.26	0.76	0.15	0.82	0.61	0.55
Control Delay	85.2	48.1	0.4	79.7	75.9	5.4	22.9	47.9	0.4	53.2	33.9	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.2	48.1	0.4	79.7	75.9	5.4	22.9	47.9	0.4	53.2	33.9	12.3
LOS	F	D	A	E	E	A	C	D	A	D	C	B
Approach Delay		62.8			61.4			42.4			30.2	
Approach LOS		E			E			D			C	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 44.7 Intersection LOS: D
Intersection Capacity Utilization 88.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



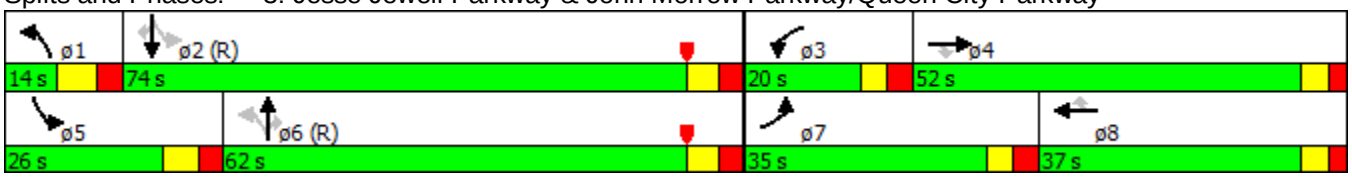
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	525	535	50	80	440	295	50	995	85	250	1000	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3374	1509	1719	3438	1538	1687	3374	1509
Flt Permitted	0.950			0.950			0.187			0.065		
Satd. Flow (perm)	3273	3374	1509	3273	3374	1509	338	3438	1538	115	3374	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			210			204			192
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	559	569	53	85	468	314	53	1059	90	266	1064	314
Shared Lane Traffic (%)												
Lane Group Flow (vph)	559	569	53	85	468	314	53	1059	90	266	1064	314
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	35.0	52.0	52.0	20.0	37.0	37.0	14.0	62.0	62.0	26.0	74.0	74.0
Total Split (%)	21.9%	32.5%	32.5%	12.5%	23.1%	23.1%	8.8%	38.8%	38.8%	16.3%	46.3%	46.3%
Maximum Green (s)	29.0	46.2	46.2	13.8	31.2	31.2	6.3	55.3	55.3	18.8	67.3	67.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	28.8	46.9	46.9	9.5	27.8	27.8	61.0	55.3	55.3	84.4	73.2	73.2
Actuated g/C Ratio	0.18	0.29	0.29	0.06	0.17	0.17	0.38	0.35	0.35	0.53	0.46	0.46
v/c Ratio	0.95	0.58	0.09	0.44	0.80	0.72	0.28	0.89	0.14	0.95	0.69	0.40
Control Delay	90.8	50.5	0.3	79.3	74.0	29.9	25.5	60.0	0.4	89.4	38.7	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	90.8	50.5	0.3	79.3	74.0	29.9	25.5	60.0	0.4	89.4	38.7	13.2
LOS	F	D	A	E	E	C	C	E	A	F	D	B
Approach Delay		67.4			58.5			54.0			42.0	
Approach LOS		E			E			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 160
Offset: 82.3 (51%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 54.0 Intersection LOS: D
Intersection Capacity Utilization 89.7% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

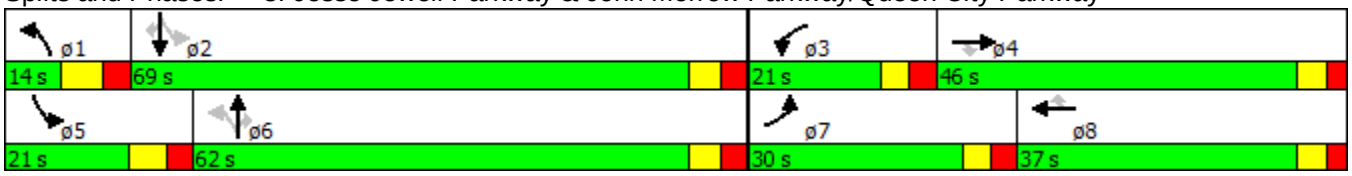


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	475	495	100	140	440	225	80	1135	190	190	1085	435
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3406	1524	1719	3438	1538	1719	3438	1538
Flt Permitted	0.950			0.950			0.137			0.064		
Satd. Flow (perm)	3303	3406	1524	3303	3406	1524	248	3438	1538	116	3438	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			128			172			165			275
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Adj. Flow (vph)	490	510	103	144	454	232	82	1170	196	196	1119	448
Shared Lane Traffic (%)												
Lane Group Flow (vph)	490	510	103	144	454	232	82	1170	196	196	1119	448
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	30.0	46.0	46.0	21.0	37.0	37.0	14.0	62.0	62.0	21.0	69.0	69.0
Total Split (%)	20.0%	30.7%	30.7%	14.0%	24.7%	24.7%	9.3%	41.3%	41.3%	14.0%	46.0%	46.0%
Maximum Green (s)	24.0	40.2	40.2	14.8	31.2	31.2	6.3	55.3	55.3	13.8	62.3	62.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	23.4	36.7	36.7	11.5	24.9	24.9	60.7	55.4	55.4	75.7	62.4	62.4
Actuated g/C Ratio	0.16	0.26	0.26	0.08	0.17	0.17	0.42	0.39	0.39	0.53	0.44	0.44
v/c Ratio	0.91	0.59	0.21	0.54	0.77	0.57	0.49	0.88	0.28	0.91	0.75	0.54
Control Delay	80.7	49.9	4.2	71.8	65.5	20.9	29.4	50.4	8.0	79.6	38.5	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.7	49.9	4.2	71.8	65.5	20.9	29.4	50.4	8.0	79.6	38.5	13.9
LOS	F	D	A	E	E	C	C	D	A	E	D	B
Approach Delay		59.3			54.1			43.5			36.8	
Approach LOS		E			D			D			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 150	
Actuated Cycle Length: 143.3	
Natural Cycle: 130	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 46.3	Intersection LOS: D
Intersection Capacity Utilization 89.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

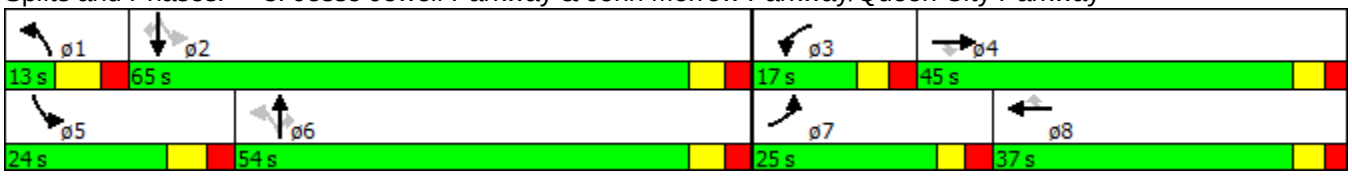


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	415	420	65	95	730	190	55	1130	120	245	1100	545
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3438	1538	1752	3505	1568	1736	3471	1553
Flt Permitted	0.950			0.950			0.147			0.071		
Satd. Flow (perm)	3335	3438	1538	3335	3438	1538	271	3505	1568	130	3471	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193			240			233			342
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	423	429	66	97	745	194	56	1153	122	250	1122	556
Shared Lane Traffic (%)												
Lane Group Flow (vph)	423	429	66	97	745	194	56	1153	122	250	1122	556
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	25.0	45.0	45.0	17.0	37.0	37.0	13.0	54.0	54.0	24.0	65.0	65.0
Total Split (%)	17.9%	32.1%	32.1%	12.1%	26.4%	26.4%	9.3%	38.6%	38.6%	17.1%	46.4%	46.4%
Maximum Green (s)	19.0	39.2	39.2	10.8	31.2	31.2	5.3	47.3	47.3	16.8	58.3	58.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	19.0	40.8	40.8	9.2	31.2	31.2	51.6	47.3	47.3	70.8	60.9	60.9
Actuated g/C Ratio	0.14	0.29	0.29	0.07	0.22	0.22	0.37	0.34	0.34	0.51	0.44	0.44
v/c Ratio	0.94	0.43	0.11	0.44	0.97	0.37	0.36	0.97	0.18	0.97	0.74	0.64
Control Delay	88.6	42.0	0.4	69.1	80.2	4.0	26.3	66.2	0.6	88.4	37.5	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.6	42.0	0.4	69.1	80.2	4.0	26.3	66.2	0.6	88.4	37.5	15.3
LOS	F	D	A	E	F	A	C	E	A	F	D	B
Approach Delay		60.5			64.9			58.5			37.7	
Approach LOS		E			E			E			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 140	
Actuated Cycle Length: 140	
Natural Cycle: 130	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay: 52.4	Intersection LOS: D
Intersection Capacity Utilization 98.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

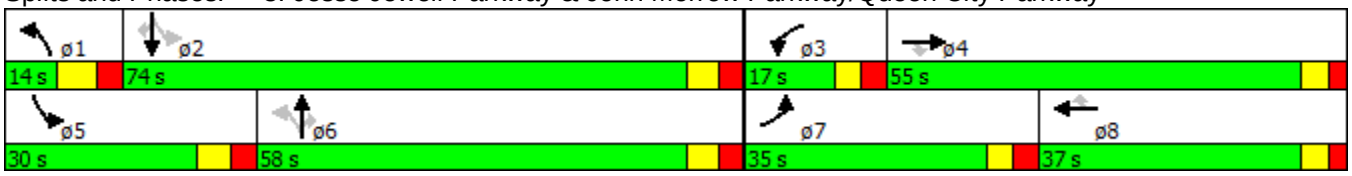


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	530	560	50	85	460	300	50	1005	90	255	1015	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3273	3374	1509	3273	3374	1509	1719	3438	1538	1687	3374	1509
Flt Permitted	0.950			0.950			0.181			0.066		
Satd. Flow (perm)	3273	3374	1509	3273	3374	1509	328	3438	1538	117	3374	1509
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			210			204			192
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	5%	5%	5%	7%	7%	7%
Adj. Flow (vph)	564	596	53	90	489	319	53	1069	96	271	1080	319
Shared Lane Traffic (%)												
Lane Group Flow (vph)	564	596	53	90	489	319	53	1069	96	271	1080	319
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	35.0	55.0	55.0	17.0	37.0	37.0	14.0	58.0	58.0	30.0	74.0	74.0
Total Split (%)	21.9%	34.4%	34.4%	10.6%	23.1%	23.1%	8.8%	36.3%	36.3%	18.8%	46.3%	46.3%
Maximum Green (s)	29.0	49.2	49.2	10.8	31.2	31.2	6.3	51.3	51.3	22.8	67.3	67.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	28.6	47.1	47.1	9.3	28.0	28.0	56.6	51.4	51.4	80.7	70.1	70.1
Actuated g/C Ratio	0.18	0.30	0.30	0.06	0.18	0.18	0.36	0.33	0.33	0.52	0.45	0.45
v/c Ratio	0.94	0.59	0.09	0.46	0.81	0.72	0.31	0.95	0.15	0.94	0.71	0.41
Control Delay	87.9	49.1	0.3	79.5	72.8	30.1	27.0	67.8	0.5	87.9	39.6	13.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.9	49.1	0.3	79.5	72.8	30.1	27.0	67.8	0.5	87.9	39.6	13.6
LOS	F	D	A	E	E	C	C	E	A	F	D	B
Approach Delay		65.0			58.3			60.8			42.5	
Approach LOS		E			E			E			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 160	
Actuated Cycle Length: 156.3	
Natural Cycle: 140	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 55.2	Intersection LOS: E
Intersection Capacity Utilization 91.2%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



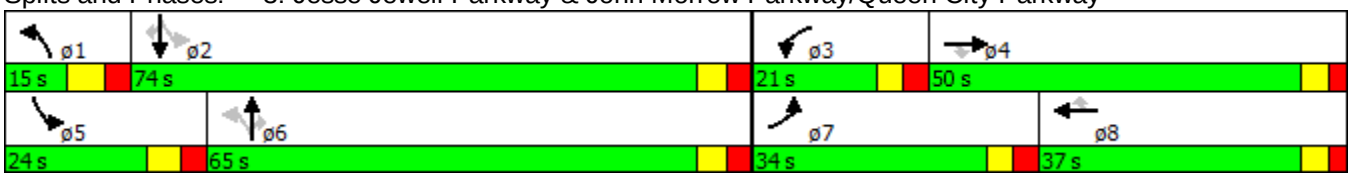
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	485	515	105	145	460	230	85	1145	195	195	1095	440
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3303	3406	1524	3303	3406	1524	1719	3438	1538	1719	3438	1384
Flt Permitted	0.950			0.950			0.134			0.060		
Satd. Flow (perm)	3303	3406	1524	3303	3406	1524	242	3438	1538	109	3438	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			210			204			261
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Parking (#/hr)												0
Adj. Flow (vph)	500	531	108	149	474	237	88	1180	201	201	1129	454
Shared Lane Traffic (%)												
Lane Group Flow (vph)	500	531	108	149	474	237	88	1180	201	201	1129	454
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.14
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4			8	6		6	2		2
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	34.0	50.0	50.0	21.0	37.0	37.0	15.0	65.0	65.0	24.0	74.0	74.0
Total Split (%)	21.3%	31.3%	31.3%	13.1%	23.1%	23.1%	9.4%	40.6%	40.6%	15.0%	46.3%	46.3%
Maximum Green (s)	28.0	44.2	44.2	14.8	31.2	31.2	7.3	58.3	58.3	16.8	67.3	67.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	26.3	41.0	41.0	12.0	26.9	26.9	65.3	59.2	59.2	81.5	67.5	67.5
Actuated g/C Ratio	0.17	0.27	0.27	0.08	0.17	0.17	0.42	0.38	0.38	0.53	0.44	0.44
v/c Ratio	0.89	0.59	0.20	0.58	0.80	0.54	0.51	0.89	0.28	0.90	0.75	0.60
Control Delay	81.2	52.2	1.0	78.5	71.8	14.8	31.9	55.2	4.9	80.6	41.0	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.2	52.2	1.0	78.5	71.8	14.8	31.9	55.2	4.9	80.6	41.0	17.5
LOS	F	D	A	E	E	B	C	E	A	F	D	B
Approach Delay		60.1			57.2			46.9			39.5	
Approach LOS		E			E			D			D	

Intersection Summary

Area Type: Other
Cycle Length: 160
Actuated Cycle Length: 154.1
Natural Cycle: 130
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 48.9 Intersection LOS: D
Intersection Capacity Utilization 90.4% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

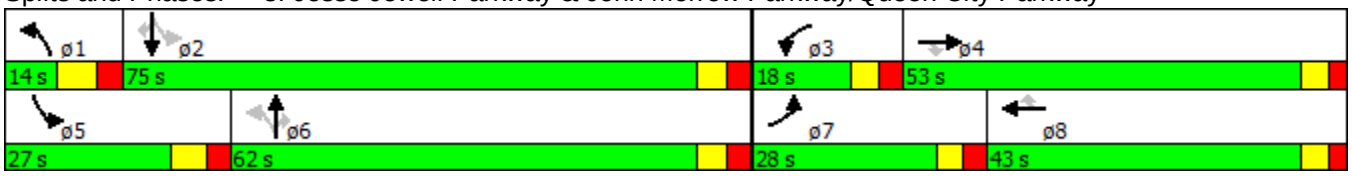


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	420	440	70	100	765	195	65	1140	125	250	1110	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		175	120		305	110		300	435		195
Storage Lanes	2		1	2		1	1		1	1		1
Taper Length (ft)	150			100			50			50		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	3438	1538	3335	3438	1538	1752	3505	1568	1736	3471	1553
Flt Permitted	0.950			0.950			0.134			0.064		
Satd. Flow (perm)	3335	3438	1538	3335	3438	1538	247	3505	1568	117	3471	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			210			204			325
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		416			361			2088			1966	
Travel Time (s)		8.1			7.0			40.7			38.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	3%	3%	4%	4%	4%
Adj. Flow (vph)	429	449	71	102	781	199	66	1163	128	255	1133	561
Shared Lane Traffic (%)												
Lane Group Flow (vph)	429	449	71	102	781	199	66	1163	128	255	1133	561
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane					Yes			Yes			Yes	
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		1	6		5	2	
Permitted Phases			4			8	6		6	2		2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	1	6	6	5	2	2
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	11.0	26.8	26.8	11.2	36.8	36.8	12.7	37.7	37.7	12.2	27.7	27.7
Total Split (s)	28.0	53.0	53.0	18.0	43.0	43.0	14.0	62.0	62.0	27.0	75.0	75.0
Total Split (%)	17.5%	33.1%	33.1%	11.3%	26.9%	26.9%	8.8%	38.8%	38.8%	16.9%	46.9%	46.9%
Maximum Green (s)	22.0	47.2	47.2	11.8	37.2	37.2	6.3	55.3	55.3	19.8	68.3	68.3
Yellow Time (s)	3.0	3.4	3.4	3.2	3.4	3.4	4.7	3.7	3.7	4.2	3.7	3.7
All-Red Time (s)	3.0	2.4	2.4	3.0	2.4	2.4	3.0	3.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	5.8	5.8	6.2	5.8	5.8	7.7	6.7	6.7	7.2	6.7	6.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)		5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0
Flash Dont Walk (s)		16.0	16.0		26.0	26.0		26.0	26.0		16.0	16.0
Pedestrian Calls (#/hr)		6	6		6	6		6	6		6	6
Act Effct Green (s)	22.0	49.0	49.0	10.0	37.2	37.2	60.6	55.3	55.3	81.8	68.3	68.3
Actuated g/C Ratio	0.14	0.31	0.31	0.06	0.23	0.23	0.38	0.35	0.35	0.51	0.43	0.43
v/c Ratio	0.94	0.43	0.12	0.49	0.98	0.38	0.43	0.96	0.19	0.98	0.76	0.66
Control Delay	96.5	46.1	0.4	80.3	87.0	7.1	31.2	68.9	0.6	98.3	43.2	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.5	46.1	0.4	80.3	87.0	7.1	31.2	68.9	0.6	98.3	43.2	18.4
LOS	F	D	A	F	F	A	C	E	A	F	D	B
Approach Delay		65.5			71.7			60.6			43.3	
Approach LOS		E			E			E			D	

Intersection Summary	
Area Type: Other	
Cycle Length: 160	
Actuated Cycle Length: 160	
Natural Cycle: 140	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay: 57.4	Intersection LOS: E
Intersection Capacity Utilization 99.9%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway



Appendix H

Build SimTraffic Outputs

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.2	1.6	1.6	0.4	1.6
Total Del/Veh (s)	60.6	39.0	12.2	73.8	54.1	26.3	44.2	47.5	10.6	43.7	30.6	8.4

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	40.1

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	44.6

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	WB	WB	WB	WB	WB	B5
Directions Served	L	L	T	T	R	T	L	L	T	T	R	T
Maximum Queue (ft)	253	307	322	248	131	17	90	150	228	251	247	17
Average Queue (ft)	187	206	143	135	24	1	28	53	128	128	120	1
95th Queue (ft)	263	284	261	224	72	14	72	111	204	217	212	12
Link Distance (ft)			327	327		178			271	271		46
Upstream Blk Time (%)		0	0	0					0	0	0	0
Queuing Penalty (veh)		0	0	0					0	0	0	0
Storage Bay Dist (ft)	180	180			175		120	120			305	
Storage Blk Time (%)	7	17	3	4			0	0	14	0	0	
Queuing Penalty (veh)	14	34	16	2			0	0	10	0	0	

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (ft)	160	512	508	325	294	468	462	220
Average Queue (ft)	50	309	310	83	143	247	256	109
95th Queue (ft)	144	445	450	294	241	378	403	284
Link Distance (ft)		2012	2012			1902	1902	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	110			300	435			195
Storage Blk Time (%)	0	45	11	0		0	14	0
Queuing Penalty (veh)	1	20	9	0		0	37	1

Network Summary

Network wide Queuing Penalty: 145

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.3	1.6	1.7	0.4	1.6
Total Del/Veh (s)	59.3	43.4	12.7	64.0	57.3	26.1	57.0	50.2	16.3	41.1	31.9	10.9

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	40.5

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	45.0

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	R	T	L	L	T	T	R	L
Maximum Queue (ft)	254	299	288	234	183	14	121	181	236	235	215	160
Average Queue (ft)	179	193	136	131	45	0	53	72	133	130	93	72
95th Queue (ft)	266	282	231	208	109	10	104	129	206	201	182	166
Link Distance (ft)			327	327		178			271	271		
Upstream Blk Time (%)		0	0						0	0		
Queuing Penalty (veh)		0	0						0	0		
Storage Bay Dist (ft)	180	180			175		120	120			305	110
Storage Blk Time (%)	7	14	2	3			0	1	16	0		1
Queuing Penalty (veh)	13	26	7	2			0	2	20	0		7

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	R	L	T	T	R
Maximum Queue (ft)	700	715	325	269	447	482	220
Average Queue (ft)	371	371	140	106	261	279	147
95th Queue (ft)	634	633	375	214	406	447	306
Link Distance (ft)	2012	2012			1902	1902	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			300	435			195
Storage Blk Time (%)	44	16	0		0	15	0
Queuing Penalty (veh)	31	27	0		1	60	1

Network Summary

Network wide Queuing Penalty: 196

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.2	1.5	1.8	0.6	1.7
Total Del/Veh (s)	66.2	42.0	12.8	77.0	59.9	25.3	49.2	50.6	13.0	49.2	33.9	15.5

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	42.7

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	47.8

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	B5	B5
Directions Served	L	L	T	T	R	L	L	T	T	R	T	T
Maximum Queue (ft)	252	286	234	212	84	85	220	338	350	271	30	34
Average Queue (ft)	158	171	109	106	29	31	85	229	228	112	3	2
95th Queue (ft)	236	255	192	183	63	70	201	343	346	250	28	17
Link Distance (ft)			327	327				271	271		46	46
Upstream Blk Time (%)								5	5	0	1	0
Queuing Penalty (veh)								0	0	0	0	0
Storage Bay Dist (ft)	180	180			175	120	120			305		
Storage Blk Time (%)	3	8	1	1		0	0	37	5	0		
Queuing Penalty (veh)	5	12	4	1		0	0	31	9	1		

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	T	T	R
Maximum Queue (ft)	160	595	606	325	478	517	565	220
Average Queue (ft)	42	362	363	129	155	303	331	176
95th Queue (ft)	123	531	532	370	306	471	527	306
Link Distance (ft)		2012	2012			1902	1902	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	110			300	435			195
Storage Blk Time (%)		47	18	0	0	1	19	1
Queuing Penalty (veh)		23	19	0	1	2	92	6

Network Summary

Network wide Queuing Penalty: 206

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.2	1.5	1.7	0.4	1.6
Total Del/Veh (s)	59.8	38.3	9.6	70.5	52.9	28.8	47.0	48.7	10.0	50.7	28.8	7.6

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	40.2

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	44.8

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	L	L	T	T	R
Maximum Queue (ft)	255	315	356	267	195	12	4	91	135	242	301	266
Average Queue (ft)	202	218	156	140	31	1	0	27	48	134	138	134
95th Queue (ft)	281	312	275	224	109	9	3	71	103	214	236	241
Link Distance (ft)			327	327		178	178			271	271	
Upstream Blk Time (%)		0	0							0	0	0
Queuing Penalty (veh)		0	0							0	0	0
Storage Bay Dist (ft)	180	180			175			120	120			305
Storage Blk Time (%)	10	20	3	4				0	0	15	0	0
Queuing Penalty (veh)	22	42	16	2				0	0	11	1	1

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	B5	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	L	T	T	R	L	T	T	R
Maximum Queue (ft)	17	160	524	540	325	344	453	444	220
Average Queue (ft)	1	46	316	320	74	153	237	240	85
95th Queue (ft)	12	139	452	461	271	279	372	381	255
Link Distance (ft)	46		2012	2012			1902	1902	
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)		110			300	435			195
Storage Blk Time (%)			47	11	0	0	0	11	0
Queuing Penalty (veh)			21	9	0	2	0	29	1

Network Summary

Network wide Queuing Penalty: 156

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.3	1.5	1.7	0.5	1.5
Total Del/Veh (s)	77.8	44.8	11.9	68.1	54.0	26.6	43.9	39.9	11.1	46.6	29.5	10.4

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	39.3

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	43.9

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	WB	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	L	L	T	T
Maximum Queue (ft)	255	325	382	298	222	112	69	11	138	178	240	241
Average Queue (ft)	198	220	171	142	49	13	5	0	56	78	135	131
95th Queue (ft)	286	325	322	240	130	87	49	8	109	135	206	210
Link Distance (ft)			327	327		178	178	1312			271	271
Upstream Blk Time (%)		2	3	0		1	0				0	0
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	180	180			175				120	120		
Storage Blk Time (%)	14	26	2	5					0	1	14	0
Queuing Penalty (veh)	27	49	10	5					1	2	19	0

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	T	L	T	T	R	L	T	T	R
Maximum Queue (ft)	205	1	160	560	531	325	318	486	497	220
Average Queue (ft)	93	0	70	327	326	117	122	252	262	134
95th Queue (ft)	175	1	167	485	486	342	236	393	421	295
Link Distance (ft)		46		2012	2012			1902	1902	
Upstream Blk Time (%)	0									
Queuing Penalty (veh)	0									
Storage Bay Dist (ft)	305		110			300	435			195
Storage Blk Time (%)	0		1	40	11	0		0	13	0
Queuing Penalty (veh)	0		4	30	19	0		1	52	1

Network Summary

Network wide Queuing Penalty: 221

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.2	1.6	1.7	0.6	1.7
Total Del/Veh (s)	76.2	46.1	11.9	83.5	63.8	25.2	47.1	45.6	12.1	54.1	31.5	14.3

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	43.2

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	48.6

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	L	L	T	T	R
Maximum Queue (ft)	250	306	299	247	167	60	34	121	220	359	359	271
Average Queue (ft)	171	191	135	117	34	3	1	40	102	257	253	117
95th Queue (ft)	259	287	263	203	89	39	24	91	229	360	360	272
Link Distance (ft)			327	327		178	178			271	271	
Upstream Blk Time (%)		0	1	0		0	0			8	6	0
Queuing Penalty (veh)		0	0	0		0	0			0	0	0
Storage Bay Dist (ft)	180	180			175			120	120			305
Storage Blk Time (%)	8	16	1	1				0	1	43	6	0
Queuing Penalty (veh)	12	26	5	1				1	4	39	11	1

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	B5	B5	B9	B9	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	T	T	T	L	T	T	R	L	T	T	R
Maximum Queue (ft)	69	95	19	24	160	541	535	325	387	503	551	220
Average Queue (ft)	8	11	1	1	54	356	361	140	167	288	305	179
95th Queue (ft)	45	56	13	18	148	513	517	387	300	442	485	295
Link Distance (ft)	46	46	2218	2218		2012	2012			1902	1902	
Upstream Blk Time (%)	1	1										
Queuing Penalty (veh)	0	0										
Storage Bay Dist (ft)					110			300	435			195
Storage Blk Time (%)						43	18	0		1	16	1
Queuing Penalty (veh)						24	19	0		2	77	5

Network Summary

Network wide Queuing Penalty: 227

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.2	1.7	1.8	0.5	1.7
Total Del/Veh (s)	76.5	41.8	11.6	75.1	58.6	34.0	54.6	53.6	14.7	66.9	34.1	10.9

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	47.1

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	52.3

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	WB	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	L	L	T	T
Maximum Queue (ft)	255	327	395	328	223	180	127	23	93	220	319	333
Average Queue (ft)	222	259	241	197	40	24	8	1	31	65	198	201
95th Queue (ft)	285	348	406	308	138	116	62	16	74	156	288	306
Link Distance (ft)			327	327		178	178	1312			271	271
Upstream Blk Time (%)		3	5	0		1	0				2	1
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	180	180			175				120	120		
Storage Blk Time (%)	21	35	8	13						0	32	1
Queuing Penalty (veh)	54	92	42	6						0	25	4

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	T	T	T	L	T	T	R	L	T	T	R
Maximum Queue (ft)	271	14	48	8	160	558	532	325	387	484	520	220
Average Queue (ft)	160	1	3	0	54	371	372	87	211	290	304	141
95th Queue (ft)	277	11	31	6	146	544	546	295	359	427	462	306
Link Distance (ft)		46	46	2218		2012	2012			1902	1902	
Upstream Blk Time (%)	0	0	0									
Queuing Penalty (veh)	0	0	0									
Storage Bay Dist (ft)	305				110			300	435			195
Storage Blk Time (%)	0				0	47	18	0	0	0	19	0
Queuing Penalty (veh)	1				2	23	15	0	1	1	54	1

Network Summary

Network wide Queuing Penalty: 322

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.3	1.5	1.6	0.5	1.6
Total Del/Veh (s)	95.9	44.0	16.2	70.8	52.2	30.6	63.5	52.0	19.0	57.2	33.9	14.3

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	46.2

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	52.2

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	255	327	396	311	224	203	131	94	54	139	220	287
Average Queue (ft)	215	253	249	181	63	50	26	18	5	61	95	173
95th Queue (ft)	288	358	424	286	153	199	127	115	58	118	187	257
Link Distance (ft)			327	327		178	178	1312	1312			271
Upstream Blk Time (%)		9	12	0		5	0					1
Queuing Penalty (veh)		0	0	0		0	0					0
Storage Bay Dist (ft)	180	180			175					120	120	
Storage Blk Time (%)	27	38	6	9						1	3	24
Queuing Penalty (veh)	65	93	26	9						2	6	33

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	WB	B5	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	T	L	T	T	R	L	T	T	R
Maximum Queue (ft)	308	270	14	160	692	684	325	366	492	535	220
Average Queue (ft)	167	119	1	80	425	430	174	148	305	325	173
95th Queue (ft)	263	229	8	169	618	624	413	304	460	501	303
Link Distance (ft)	271		46		2012	2012			1902	1902	
Upstream Blk Time (%)	1	0	0								
Queuing Penalty (veh)	0	0	0								
Storage Bay Dist (ft)		305		110			300	435			195
Storage Blk Time (%)	1	0		2	48	24	0	0	1	19	0
Queuing Penalty (veh)	2	0		11	38	46	1	0	3	82	2

Network Summary

Network wide Queuing Penalty: 418

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.3	1.4	1.7	0.7	1.6
Total Del/Veh (s)	118.5	38.2	13.8	86.9	73.7	33.5	99.5	91.8	44.0	54.9	35.8	18.9

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	61.2

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	69.9

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	WB	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	L	L	T	T
Maximum Queue (ft)	255	326	393	323	164	198	147	64	98	220	369	369
Average Queue (ft)	222	255	216	164	36	29	15	3	37	109	303	302
95th Queue (ft)	290	346	396	277	96	140	93	35	81	242	404	402
Link Distance (ft)			327	327		178	178	1312			271	271
Upstream Blk Time (%)		7	8	0		2	0				32	29
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	180	180			175				120	120		
Storage Blk Time (%)	31	46	2	4	0				0	0	58	29
Queuing Penalty (veh)	64	95	8	2	0				0	2	55	55

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	B9	B9	NB	NB	NB	NB	SB	SB	SB
Directions Served	R	T	T	T	T	L	T	T	R	L	T	T
Maximum Queue (ft)	271	142	135	266	276	160	864	855	325	423	583	622
Average Queue (ft)	183	50	54	63	65	54	581	577	151	177	323	344
95th Queue (ft)	341	145	147	246	251	143	998	983	395	339	531	569
Link Distance (ft)		46	46	2218	2218		2012	2012			1902	1902
Upstream Blk Time (%)	1	20	20									
Queuing Penalty (veh)	0	0	0									
Storage Bay Dist (ft)	305					110			300	435		
Storage Blk Time (%)	1					0	59	41	0		2	18
Queuing Penalty (veh)	3					2	32	49	1		6	98

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	SB
Directions Served	R
Maximum Queue (ft)	220
Average Queue (ft)	193
95th Queue (ft)	282
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	195
Storage Blk Time (%)	3
Queuing Penalty (veh)	14

Network Summary

Network wide Queuing Penalty: 485

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.2	1.7	1.8	0.5	1.7
Total Del/Veh (s)	90.6	41.6	13.2	76.4	56.6	33.2	68.3	66.1	22.6	58.3	32.6	11.6

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	50.7

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	56.6

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	255	327	406	349	222	264	178	183	87	95	220	330
Average Queue (ft)	227	273	284	214	44	61	23	29	12	31	73	194
95th Queue (ft)	291	371	448	318	147	224	116	150	82	76	182	297
Link Distance (ft)			327	327		178	178	1312	1312			271
Upstream Blk Time (%)		9	12	0		5	0					2
Queuing Penalty (veh)		0	0	0		0	0					0
Storage Bay Dist (ft)	180	180			175					120	120	
Storage Blk Time (%)	31	43	8	14						0	0	30
Queuing Penalty (veh)	84	117	40	7						0	0	25

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	WB	B5	B5	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	T	R	T	T	L	T	T	R	L	T	T	R
Maximum Queue (ft)	333	271	18	18	159	715	732	325	419	510	514	220
Average Queue (ft)	195	171	1	1	54	437	437	119	205	301	312	125
95th Queue (ft)	309	285	9	10	150	671	672	355	371	453	476	292
Link Distance (ft)	271		46	46		2012	2012			1902	1902	
Upstream Blk Time (%)	2	1	0	0								
Queuing Penalty (veh)	0	0	0	0								
Storage Bay Dist (ft)		305			110			300	435			195
Storage Blk Time (%)	2	1			0	54	28	0	0	1	18	0
Queuing Penalty (veh)	5	2			1	26	25	0	2	2	54	1

Network Summary

Network wide Queuing Penalty: 392

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.3	1.6	1.8	0.6	1.8
Total Del/Veh (s)	77.7	45.9	14.7	75.6	59.0	32.4	75.6	61.5	26.8	53.7	36.0	14.6

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	48.7

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	53.9

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	WB	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	L	L	T	T
Maximum Queue (ft)	255	327	378	333	225	80	36	18	158	220	330	320
Average Queue (ft)	210	240	229	195	73	12	4	1	72	110	197	189
95th Queue (ft)	285	337	374	290	187	86	49	18	139	212	303	291
Link Distance (ft)			327	327		178	178	1312			271	271
Upstream Blk Time (%)		3	3	0		1	0				3	1
Queuing Penalty (veh)		0	0	0		0	0				0	0
Storage Bay Dist (ft)	180	180			175				120	120		
Storage Blk Time (%)	17	30	10	11	0				2	4	32	1
Queuing Penalty (veh)	44	76	47	12	0				6	8	46	3

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	B5	B5	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	R	T	T	L	T	T	R	L	T	T	R
Maximum Queue (ft)	271	37	26	160	771	781	325	392	561	565	220
Average Queue (ft)	139	2	2	79	498	501	212	156	309	322	162
95th Queue (ft)	258	20	17	170	740	754	438	302	482	512	298
Link Distance (ft)		46	46		2012	2012			1902	1902	
Upstream Blk Time (%)	0	0	0								
Queuing Penalty (veh)	0	0	0								
Storage Bay Dist (ft)	305			110			300	435			195
Storage Blk Time (%)	0			1	52	30	0		2	20	0
Queuing Penalty (veh)	1			8	44	58	1		4	85	3

Network Summary

Network wide Queuing Penalty: 444

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.3	1.5	1.8	0.7	1.7
Total Del/Veh (s)	143.6	42.4	14.5	110.0	77.4	31.8	93.4	87.0	41.2	68.1	39.6	23.0

3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway Performance by movement

Movement	All
Denied Del/Veh (s)	0.5
Total Del/Veh (s)	65.1

Total Network Performance

Denied Del/Veh (s)	0.6
Total Del/Veh (s)	76.2

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	EB	EB	EB	EB	EB	B4	B4	B6	B6	WB	WB	WB
Directions Served	L	L	T	T	R	T	T	T	T	L	L	T
Maximum Queue (ft)	255	327	415	326	200	256	178	308	226	119	220	376
Average Queue (ft)	224	273	285	182	38	83	33	73	53	48	134	328
95th Queue (ft)	295	374	470	295	112	266	143	379	332	101	265	399
Link Distance (ft)			327	327		178	178	1312	1312			271
Upstream Blk Time (%)		16	22	0		13	0					38
Queuing Penalty (veh)		0	0	0		0	0					0
Storage Bay Dist (ft)	180	180			175					120	120	
Storage Blk Time (%)	42	55	4	6	0					0	1	61
Queuing Penalty (veh)	92	121	16	4	0					1	5	60

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	WB	WB	B5	B5	B9	B9	NB	NB	NB	NB	SB	SB
Directions Served	T	R	T	T	T	T	L	T	T	R	L	T
Maximum Queue (ft)	370	271	144	140	306	316	160	882	889	325	484	672
Average Queue (ft)	326	199	77	79	74	81	73	598	599	150	220	379
95th Queue (ft)	401	362	166	170	252	267	169	986	983	395	399	595
Link Distance (ft)	271		46	46	2218	2218		2012	2012			1902
Upstream Blk Time (%)	35	1	25	25								
Queuing Penalty (veh)	0	0	0	0								
Storage Bay Dist (ft)		305					110			300	435	
Storage Blk Time (%)	35	1					1	58	40	0	0	4
Queuing Penalty (veh)	69	4					4	38	50	0	0	9

Intersection: 3: Jesse Jewell Parkway & John Morrow Parkway/Queen City Parkway

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	726	220
Average Queue (ft)	418	192
95th Queue (ft)	651	289
Link Distance (ft)	1902	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		195
Storage Blk Time (%)	24	3
Queuing Penalty (veh)	134	14

Attachment 6
Concept Team Meeting Minutes

SOUTHEASTERN ENGINEERING, INC.

Concept Team Meeting Minutes

Project: Jesse Jewel Parkway/Browns Bridge Road/SR 369/SR 60 at John W. Morrow Jr. Parkway/ Queen City /SR 53 Connector/SR 60 Intersection Improvements
GDOT PI: 0013322
Date: April 5, 2016 @ 1:30 – 2:15
Attendees: Sign-in Sheet Attached

Agenda:

1. Steven Heng and Scott Mann provided a project status / overview
2. Schedule:
    - The project is currently on schedule, however SEI has concerns with submitting the final report prior to the traffic methodology and diagrams being approved.
    - ROW – 9/17
    - Let – 3/19

3. Project Description
    - Existing typical section varies by leg
    - Proposed typical section
        - GDOT has asked that the project consider extending left turn lanes on SR 369. City of Gainesville will discuss and provide direction if this is to be added to the project. Will need to examine traffic to see if extension warranted.
        - Need to add costs in Concept Report and submit through GDOT's system
        - GDOT asked why the channelized right turn was removed from Jesse Jewel onto John Morrow Parkway. SEI had brought the right turn lane into the stop bar to consider an overlap phase at the traffic signal. However, SEI will look at leaving that area as a yield condition to allow right turns to keep moving when clear. This would take this movement out of the signal phasing. After the traffic flow diagrams are approved, both conditions will be analyzed in Synchro to determine which allows the most favorable conditions with the new right turn lane.

4. Alternates Considered and Rejected
    - No build
    - Widen for right turns only
    - Roundabout

SOUTHEASTERN ENGINEERING, INC.

5. Traffic
    - Traffic projections currently in review with GDOT Office of Planning.
    - Signal modification permit will be needed to upgrade signal to current standards. Overlap phase may be used for Jesse Jewel to John Morrow Parkway if right turn movement is brought to the traffic signal stop bar.
    - Channelized right turn from Jesse Jewel to John Morrow Parkway to be considered as an option. A "keep moving" acceleration lane is not desired by GDOT because of the acceleration lane length and potential sideswipe crashes.

6. Major Structures
    - Potential affect to underground storage tanks at gas station on Jesse Jewel
    - Phase I from Materials and Testing required

7. Design Variances/Exceptions
    - 2-3 variances anticipated
        - Driveway Radii
        - Design speed to match existing speed limit rather than functional classification
        - Median widths and type to match existing rather than functional classification

8. Right of way/Displacements/Relocations
    - 7-8 Parcels affected - will be confirmed when survey is complete

9. Environmental
    - Ecology CMAQ worksheet to be submitted by 4/20/16
    - Cultural Resources underway – residential structure potentially eligible for the NRHP and should be avoided.
    - Air/Noise on hold until traffic approved

10. Other projects in the area
    - 3 GDOT maintenance projects including: M005504, M005493, & M005512
    - 1 long-range project: GH112

11. Additional Comments from Attendees
    - Right of way

- Reconsider removing access in NW quadrant. Removing access could affect tanker truck's ability to access/maneuver through the site.
- Need to keep median curb in front of gas station to maintain right in/right out access
- Will retention structure at Dunkin Donuts be impacted?

- Utilities
  - GA Power noted they have lines on east side of Jesse Jewel and along Queen City

12. Action items:
    - City and GDOT meeting to discuss additional work at intersection including extending left turn lanes.
    - SEI evaluating maintaining the slip lane on Jesse Jewel southbound
    - A Phase I will be needed for the gas station once ROW is determined.

Attachment 7
Comment Responses

PI # 0013322, Hall County
Limited Scope Concept Report Comment Response
Comments Received via Email June 20, 2016 and July 15, 2016

Note: It appears not all reviewers received the same/final version of the Concept Report (CR) since some questions do not match the final CR version submitted. Comment responses are included below each comment in ***bold italics***.

I. Christopher Raymond, the Project Design/Concept Review Manager for Traffic Operations, has recommended the concept report for the State Traffic Engineer with the following comments:

- Complete box for Total Cost of project on page 7
  Completed in submitted version
- Complete information in Alternatives Discussion
  Completed in submitted version. Additional descriptions have been added.
- Complete streets bike warrant should be check as project appears to be on statewide bike map.
  Project not included on maps from GDOT Statewide Bicycle and Pedestrian Plan or in Gainesville's CTP.

II. Dan Pass, the Assistant Design Policy Engineer, had the following comments:

Overall, the preferred alternative appears to be the appropriate solution to meet the stated project need. Notably, the CR lacks an operational study (i.e., capacity analyses). This is necessary to evaluate operational performance and to verify turn lane lengths. This study should be prepared an added to the report, and the layout updated as necessary. Below are some additional comments.

1. ***Planning and Background:*** Correct label which should read "Congressional District(s): 9" [Dave – please correct the template o ROADS.]
   MPO reference removed
2. ***Design Variances:*** Variances are not requires for driveway radii and design speed (in this case). Design speed is not defined by functional classification. Refer to this memo from FHWA.
   Removed
3. ***Alternatives Discussion:*** Please add costs and improve the discussion for each alternative.
   Added
4. ***Attachments:*** Two headings/lists are provided. Please delete one.
   Only one heading in CR
5. ***Concept Layout:***
   - show the historic boundary and location of the resource.
     The concept layout has been revised as requested.
   - improve legibility.
     The concept layout has been.
   - verify turn lengths against a completed operational performance study.
     Traffic Operation Analysis attached to CR as Attachment 5.
   - the CR text indicates a realignment of John Morrow/Queen City Parkway – a realignment is not evident either on typical sections or the layout. Please clarify and ensure consistency.
     The concept layout has been revised as requested.

6. ***Typical sections:***
   - Consider adding landscaping strip between the sidewalks and curbs. The omission of a landscaping strip should be confined to highly constrained areas such as might occur in the central business of a large city. Refer to Section 9.5.1 of the DPM under the heading "Pedestrian Buffer Area."

     The typical section has been revised to include a landscaping strip where sidewalk work is proposed. Adding the landscaping strip along the south side of Jesse Jewel Pkwy would not be technically feasible because it would require additional right-of-way acquisition and unnecessary scope expansion.
   - Verify that there is no need to provide sidewalks along John Morrow.

     John Morrow Pkwy is a bypass type facility not intended for pedestrians.
7. ***Traffic Diagrams***: Please provide approved traffic diagrams.

   Approved traffic diagrams attached.
8. ***Capacity Analysis:*** add this study to the CR and update the report as necessary.

   Traffic Operation Analysis attached to CR as Attachment 5.

III. <u>Walter Taylor, the Assistant Design Policy Engineer, had the following comments:</u>

"The following items should be modified:

Design Exceptions Anticipated: add design speed

Added

Design Variances Anticipated: remove design speed, add horizontal curve radius"

Removed/ Added

IV. <u>Kim Phillips in the Conceptual Design Group in Design Policy & Support had the following comments</u>:

A better location sketch is recommended.

A revised location sketch is included.

Was the functional classification meant to apply to both intersecting roadways? Please make this clearer.

Yes. Additional text added for clarification

Worksheets for ROW should be removed. Only the summary is needed.

Worksheets were not included in final CR submission

The preconstruction status report should not be included.

The preconstruction status report was not included in the final CR submission

District 1 comments received 7/15/2016

Extending right turn lane on Jesse Jewell (southbound) to tie into existing turn lane.

Extended as far as practical without interference with May Road intersection and tied into current turn lane.

Adding island separation for right turn lane on John Morrow (eastbound).

Island added

Extending dual left turn lane on John Morrow (eastbound).

Turn lanes extended

Removing striping to allow center turn lane to flow into dual lefts on Queen City (westbound).

Striping removed