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January 19, 2024

Mr. Jared Knerr, PE, PS
Licking County Transportation Improvement District
20 S. Second Street
Newark, OH 43055

RE: 10-Minute Travel Time Group
County Line/Beech Road and Fancher/Green Chapel Realignments
Traffic Analysis of Potential Alternatives

Dear Mr. Knerr:

ms consultants has conducted a preliminary analysis of three potential roadway realignment projects near the Intel site & New Albany Technology Manufacturing District (NATMD). This memo provides a preliminary assessment of the two alternatives, and the level of improvement they might provide over the existing roadway network. Some goals in the development of alternatives are:

- Improving the traffic operations on US 62 between Tippet Road and Duncan Plains Road,
- Improving safety/geometry of US 62 intersections, and
- Reducing traffic volumes at US 62/Duncan Plains Road/Clover Valley Road intersection area (a.k.a "Six Points"), a projected system bottleneck

Background

The 10-Minute Travel Time Study (April 2023) developed planning-level traffic forecasts for the area surrounding the Intel plant and New Albany Technology Manufacturing District (NATMD). The study findings showed that large increases in traffic volumes were predicted for nearly every major roadway in the study area, including US 62 and the intersecting roadways west of Johnstown. Many of these intersecting roadways – County Line Road/Tippet Road, Beech Road, Green Chapel Road, and Fancher Road have skewed intersections and are not aligned with each other. Thus, proposed alternatives have been proposed to provide more direct travel paths and improved geometry at US 62 intersections. These proposed alternatives are shown on **Figure 1**.

Alternative 1

This alternative would construct a new connector road to align Fancher Road and Green Chapel Road. With the main employee parking lot of Intel planned for Green Chapel Road, this alternative could provide a more direct connection from Intel into southern Delaware County along Fancher Road. Alternative 1 would also improve connectivity to the north and west by creating a more direct link to County Line Road, which connects north to Duncan Plains Road and SR 37. Intel traffic coming from the SR 37 corridor would be more inclined to use County Line Road and avoid congestion at the US 62/Duncan Plains/Clover Valley Road intersections.

A conceptual alignment for Alternative 1 is shown on Figure 1. The Fancher-Green Chapel connection shown is designed for a 45mph speed. As this connection is within the NATMD proposed commercial/retail area, it is assumed that a lower (not rural 55/60mph) design speed would be appropriate. It is assumed that portion east of US 62 would have five lanes, consistent with the NATMD TIS findings for Green Chapel Road. A five-lane section is also assumed west of US 62 due to its location within the NATMD commercial/retail area.

Alternative 1 would eliminate the US 62/Tippet Road intersection. County Line Road/Tippet Road would cul-de-sac south of Fancher Road and be used only for local access trips. County Line Road would be reconstructed and widened to a 3-lane section between Fancher Road and Duncan Plains Road.

Alternative 2

This alternative would construct the same Fancher Road/Green Chapel Road connection as in Alternative 1, but would also realign County Line Road/Tippet Road and Beech Road to create a single 4-leg intersection at US 62. As this County Line/Beech Road connection is within the NATMD proposed commercial/retail area, it is assumed that a lower (not rural 55/60mph) design speed would be appropriate. A 3-lane section is assumed for the County Line/Beech Road connection. Similar to Alternative 1, County Line Road between Fancher Road and Duncan Plains Road would be widened and reconstructed to a 3-lane section.

In this alternative, the US 62/Tippet Road intersection could be configured in multiple ways. With the creation of multiple new 4-leg intersections on US 62, a full-movement intersection at this location is likely undesirable. Either right-in/right-out (RIRO) or Light-in/right-out (LIRO) operations would be considered for this location. The RIRO operation of Tippet Road will be referred to as Alternative 2A, while the LIRO operation will be referred to as Alternative 2B.

Alternative 3

This alternative would construct the same County Line/Beech Road connection as in Alternative 2, but would not involve any modifications to the Fancher Road or Green Chapel Road intersections on US 62.

As with Alternative 2, the US 62/Tippet Road intersection would be modified from its current full-movement operation. This intersection could be configured as either a right-in/right-out (RIRO) operation or left-in/right-out (LIRO) operation. The RIRO operation of Tippet Road will be referred to as Alternative 3A, while the LIRO operation will be referred to as Alternative 3B.

Traffic Volumes

Opening Year (2025) and Design Year (2050) traffic projections from the 10-Minute Travel Time Study were used as a baseline. Traffic volumes were then generated for each of the build alternatives. **Figure 2** summarizes the projections for each alternative. The Fancher Road/Green Chapel connection (Alternative 1) is expected to attract trips to/from southeastern Delaware County, as it could provide a more efficient route to the Intel facility. Alternative 1 is projected to have a greater effect on Opening Year volumes because the Opening Year projections assume full buildout of Intel, but only 10% buildout of NATMD.

Alternative 1 is expected to reduce projected traffic volumes on Clover Valley Road and Duncan Plains Road by 20-30% reduction in Opening Year volumes. However, this results in less than a 10% reduction in overall volume at the congested US 62/Duncan Plains Road (“Six Points”) intersection. Alternative 2 is not expected to offer much, if any, additional traffic volume reduction on these routes.

With Alternative 1 or Alternative, the Design Year (2050) daily volume forecast on Clover Valley Road south of US 62 are would reduce from 18,700 to near 15,000. The 18,700 ADT in the No-Build condition could require a five-lane roadway to handle future capacity. With the Fancher/Green Chapel connection in Alternative 1 or Alternative 2, the reduced volume is predicted to be comfortably within the capacity of a three-lane roadway. Thus, the Fancher/Green Chapel connection could save considerable cost on the Clover Valley Road improvements. The County Line/Beech Road realignment in Alternative 3 is expected to have a lesser impact on Clover Valley Road volumes.

Traffic Operations

The projected ADTs for the alternatives were converted into peak hour volumes. Synchro was used to estimate level-of-service (LOS) for the study area intersections. For the purpose of these analyses, it is assumed that US 62 is widened to five lanes (two through lanes each direction) in the No-Build condition, as traffic volumes on US 62 are anticipated to exceed 40,000 vehicles per day in the Design Year. It is also assumed that all intersections are eventually signalized in the Design Year, even in the No-Build condition, to more safely accommodate future volumes.

The results indicate that Alternative 1, Alternative 2, or Alternative 3 can reduce overall delays on US 62 compared with the No-Build condition, particularly at the Green Chapel Road intersection in the Opening Year. Alternative 2, which has both road realignments, is only expected to provide incremental additional delay savings compared with Alternative 1 or Alternative 3.

Table 1: Level-of-Service (LOS) and Average Vehicle Delay (in sec./veh.)

	Opening Year (2025) Assuming 2/3-lane US 62 (one through lane in each direction)					
	No-Build	**Alt. 1**	**Alt 2A**	**Alt. 2B**	**Alt 3A**	**Alt. 3B**
US 62 & Tippet Road	B 10	--	C 20	A 5	C 20	A 5
US 62 & Beech Road	B 15	B 15		B 20		C 20
US 62 & Green Chapel Road	F 90	D 40	D 40	D 40	D 40	D 40
US 62 & Fancher Road	D 35				B 15	B 15

Table 2: Level-of-Service (LOS) and Average Vehicle Delay (in sec./veh.)

	Design Year (2050) Assuming 5-lane US 62 (two through lanes in each direction)					
	No-Build	**Alt. 1**	**Alt 2A**	**Alt. 2B**	**Alt 3A**	**Alt. 3B**
US 62 & Tippet Road	F 100	--	E 70	B 10	E 75	B 10
US 62 & Beech Road	C 35	D 50		E 55		E 70
US 62 & Green Chapel Road	F 90	F 90	E 60	E 60	E 70	E 70
US 62 & Fancher Road	D 35				C 30	C 30

It should be noted that the intersection LOS's shown in Table 1 and Table 2 could be improved if the US 62/Tippet Road intersection were to remain with restricted (left-in/right-out) operation. This would help remove a large number of eastbound left turns from the larger 4-leg intersections in these alternatives. It should also be noted that the projected traffic operations/delays in this area would be greatly affected by the development plan for the NATMD commercial/retail area planned for north of US 62. The placement of major retail or office traffic generators could significantly shift projected traffic volumes at the study area intersections.

Cost Estimates

Conceptual cost estimates were developed for the build alternatives. Unit costs per lane-foot of pavement were used as the basis for these estimates. A higher unit cost was used for new/improved roadways inside the NATMD/City of New Albany, where it is assumed that medians, lighting, sidewalks, or other more urban infrastructure would be included. Lower unit costs were used for improving County Line Road north of Fancher Road, as this would likely remain a more rural design without aesthetic enhancements. Right-of-way costs were based on recent sale prices in the study area. None of the cost estimates include any widening of US 62, which is assumed to be part of the No-Build condition.

Alternative 1 is expected to have a total project cost of between $25-30 million. Alternative 2 is expected to have a total project cost between $40-50 million. Alternative 3 is expected to have a total project cost of $20-25 million. Details on the cost estimates are attached in the appendix.

As noted in the Traffic Volumes section, the Fancher/Green Chapel connection (part of Alternative 1 and Alternative 2) is expected to reduce the future widening needs on Clover Valley Road south of US 62. The incremental cost savings for Clover Valley Road is expected to be in the range of $6-8 million.

No substantial difference in cost is expected whether the US 62/Tippet Road intersection operates as a right-in/right-out (RIRO) or a left-in/right-out (LIRO).

Alternative Summary

Some key study findings are shown in **Table 3**:

Table 3: Alternative Summary

	No-Build	Alternative 1	Alternative 2	Alternative 3
Traffic Operations – Opening Year	One LOS F location	LOS D or better at all locations	LOS D or better at all locations	LOS D or better at all locations
Traffic Operations – Design Year	Two LOS F locations	One LOS F location	LOS E or better at all locations	LOS E or better at all locations
US 62/Duncan Plains Intersection Traffic	53,000 veh. per day in Opening Year	8% reduction in traffic volume	8% reduction in traffic volume	4% reduction in traffic volume
Number of Anticipated Signals on US 62	4	2	2*	2*
Number of Skewed Intersections on US 62	4	1	1	2
Connectivity to Intel	No change	Improved connectivity to Delaware County	Improved connectivity to Delaware County	Limited improved connectivity to Intel
Connectivity to NATMD	No change	Limited improved connectivity to Delaware County	Improved connectivity to Delaware County	Improved connectivity to Delaware County
Construction Cost**	Routine Maintenance	$23 M	$36 M	$18 M
Right-of-Way	None	$4 M	$8 M	$4 M

*value shown for Alternative 2A or 3A. Additional signal on US 62 in the Alternative 2B or 3B conditions.
**Current year dollars including 30% contingency, 15% engineering, and 8% for construction administration

Prioritization

Based on the detailed cost estimates and traffic analysis, the components of Alternatives 1, 2, and 3 have been prioritized. The Fancher/Green Chapel connector provides the greatest system benefit and is recommended to be the first priority. Improvements to County Line Road north of Fancher are the third priority, as this section currently has better lane widths and pavement buildup than other roadways.

Table 4

Table 4: Project Prioritization

	Construction Cost	R/W Cost	Total Project Cost
Priority 1: Fancher/Green Chapel connector	$18.8 M	$4.4 M	$23.2 M*
Green Chapel Road - east of US 62	$6.4 M	$1.6 M	$8.0 M
Fancher Road - west of US 62	$12.4 M	$2.8 M	$15.2 M
Priority 2: County Line/Beech connector	$11.8 M	$2.7 M	$13.8 M
Beech Road - south of US 62	$3.8 M	$1.0 M	$4.8 M
County Line Road - north of US 62	$8.0 M	$1.7 M	$9.7 M
Priority 3: County Line Road – Fancher to Duncan Plains	$5.6 M	$1.3 M	$6.8 M

*expected to reduce future widening cost of Clover Valley Road south of US 62 by $6-8 million

Conclusions & Summary

This study analyzed the potential effects of two new road network alternatives for the Intel/NATMD area along US 62 in western Licking County. Both alternatives include improvements that would help to improve traffic operations and safety by reducing the number of signals and skewed intersections. Both alternatives would create greater road network continuity and divert some traffic away from more congested areas, such as US 62/Duncan Plains Road.

Alternatives 2B and 3B, which allow for left-in/right-out movements at the US 62/Tippet Road intersection, are expected to reduce delays at the County Line/Beech Road intersection in comparison with only allowing right-in/right-out access in Alternatives 2A and 3A, respectively. This would be especially true if the NATMD property north of US 62 were to develop with major commercial/retail land uses.

The improvements in the alternatives have been prioritized based on their projected benefits, particularly reducing traffic volumes on adjacent routes. The recommendations are as follows:

- The Fancher-Green Chapel connection ($23M) is recommended to be prioritized first
    - This connection has potential to divert the most vehicles away from other roadways, including the US 62/Duncan Plains/Clover Valley intersection area (“Six Points”)
    - The Fancher-Green Chapel connection could reduce future Clover Valley Road improvement needs by $6-8 million
- The County Line/Beech connection ($14M) is recommended as a second priority
    - This connection would have minimal impact on adjacent roadway volumes, but is expected to improve operations and safety
- Upgrading County Line Road from Fancher Road north to Duncan Plains Road ($7M) is recommended as a third priority
    - This roadway is currently in more suitable condition than Fancher Road and Green Chapel Road to handle increased traffic volume
    - Improvements are recommended to better accommodate traffic from future development, and help attract vehicles from other routes

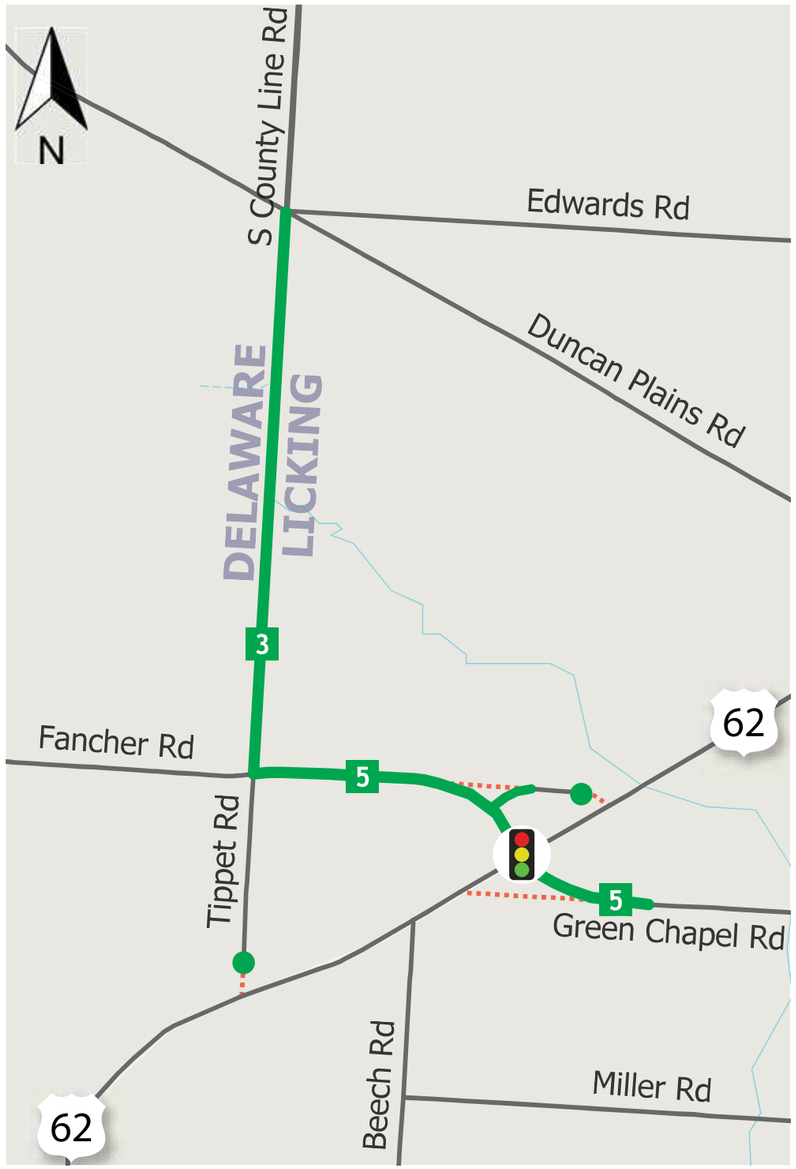
Please feel free to contact me anytime to discuss any questions you have regarding this study.

Sincerely,

Ryan Bush, P.E., AICP
Traffic Engineer

N:\03\60\10xxx_LCTID_IntelTrafficStudy\00_County Line Fancher Study\2024-01-19_CountyLineBeechFancherGreenChapel_TrafficAnalysis.docx

Alternative 1:



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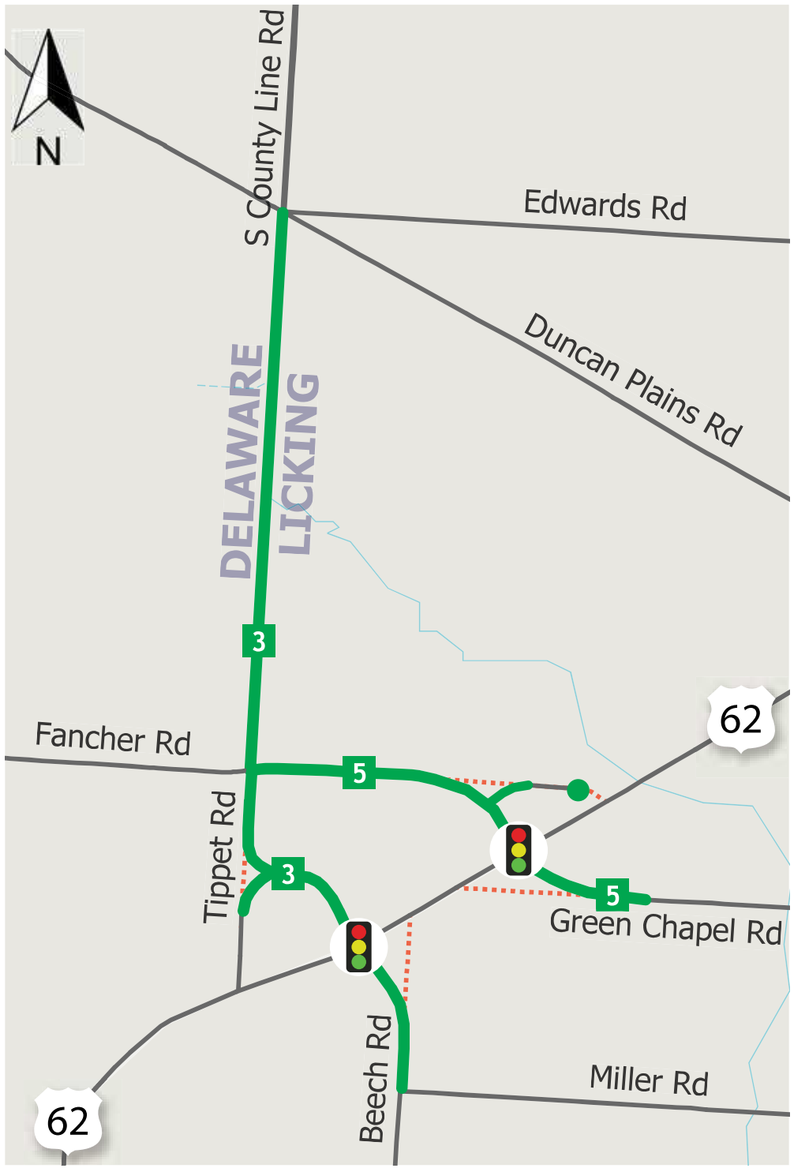
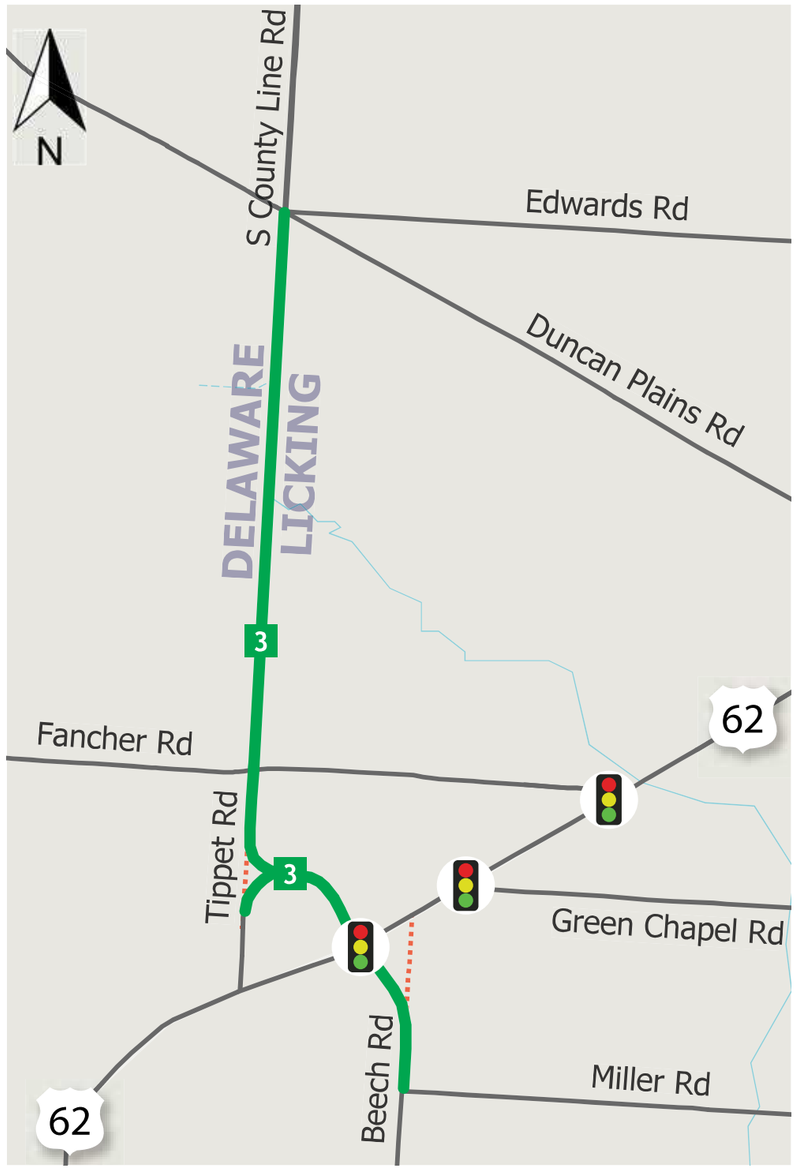


Alternative 3:



Legend:

- No change proposed
- New or widened road
- Existing road to be removed
- New signal
- # Proposed # of lanes

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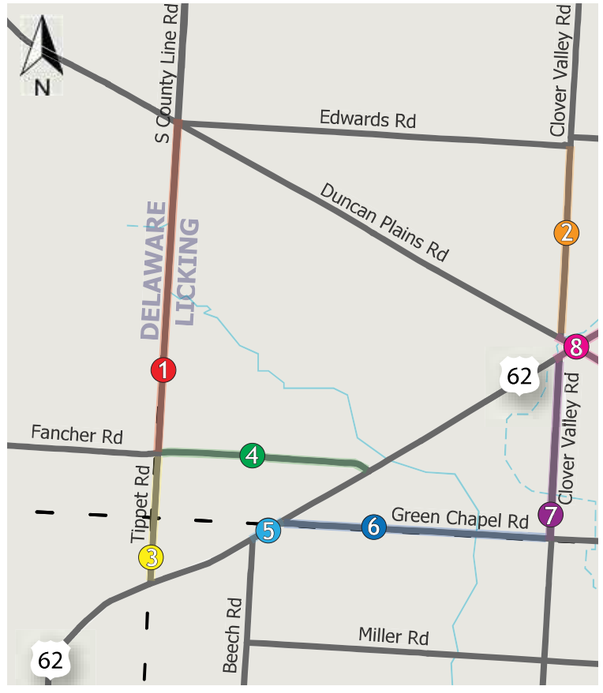
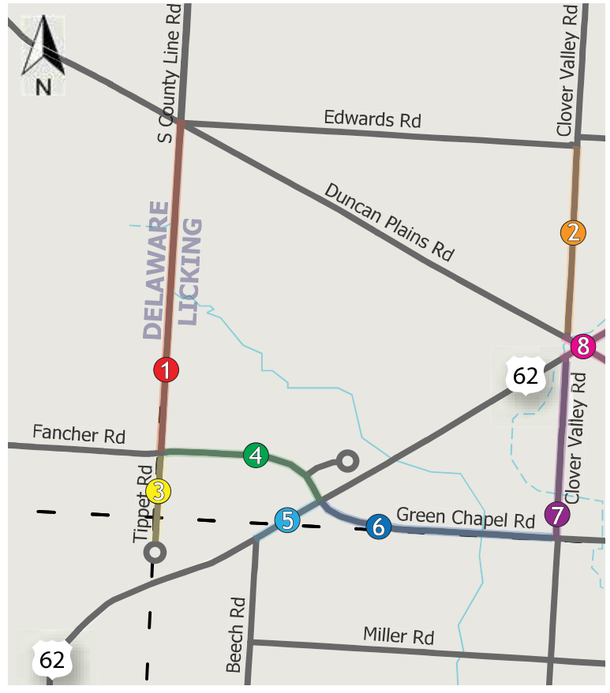
Figure 1
Alternatives Comparison
County Line Rd/Fancher Rd Realignment Study
January 2024

TID Licking County Transportation Improvement District

Existing Roadway:



Alternative 1:



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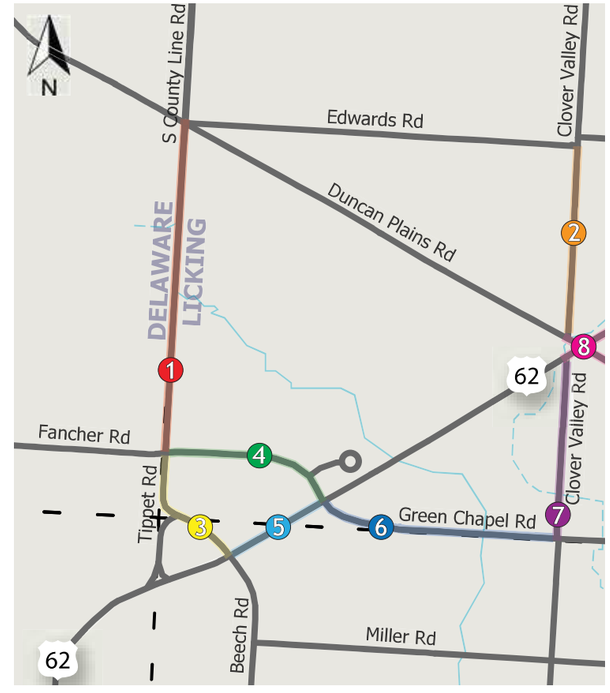
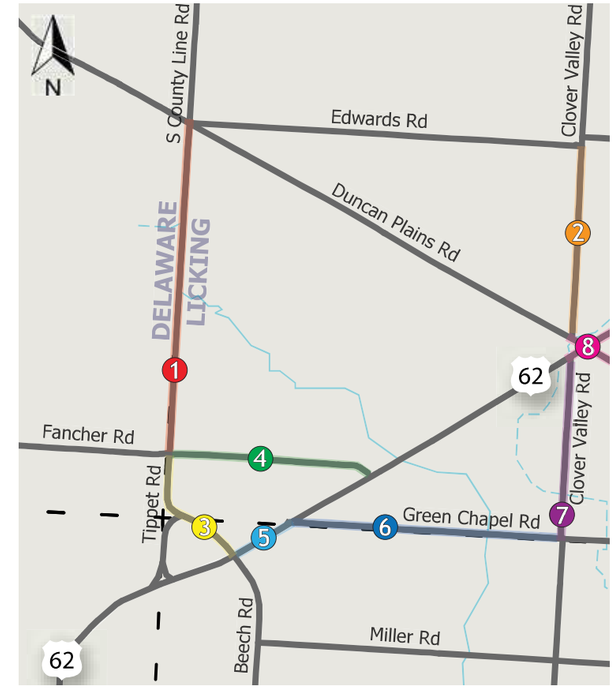


Alternative 3:



Traffic Volumes (ADT)

	Segment Name	Current Year	Opening Year (2025)				Design Year (2050)			
			No-Build	Alternative 1	Alternative 2	Alternative 3	No-Build	Alternative 1	Alternative 2	Alternative 3
1	S County Line north of Fancher Road	1,700	2,600	4,400	4,300	3,500	14,700	16,900	17,300	16,600
2	Clover Valley Road north of US 62	1,600	4,600	3,700	3,800	4,400	28,500	27,300	27,100	27,900
3	Tippet/County Line between US 62 & Fancher Road	1,600	2,000	100	2,400*	4,600*	10,400	1,200	11,900*	16,800*
4	Fancher Road east of County Line	1,000	4,000	7,700	5,300	2,200	11,401	21,401	12,600	7,100
5	US 62 east of Beech Road	12,300	17,500	17,900	17,500	18,700	39,500	43,500	40,500	41,100
6	Green Chapel Road east of US 62	300	7,100	8,900	8,100	6,700	16,500	20,000	17,300	15,200
7	Clover Valley Road south of US 62	500	7,600	5,800	5,900	6,800	18,700	14,700	15,300	16,900
8	US 62/Duncan Plains intersection	34,000	53,000	49,000	49,000	51,000	148,000	141,000	141,000	145,000

*Volumes show assume US 62/Tippet Road intersection as right-in/right-out (RIRO)
If the US 62/Tippet Road intersection operates as left-in/right-out (LIRO), ADT for this segment will be reduced by 800 in the Opening Year and by 2,000 in the Design Year.

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Figure 2
Volume Impact Comparison
County Line Rd/Fancher Rd Realignment Study
January 2024

Licking County Transportation Improvement District

Nov-23

Assume: US 62 already widened to 5 lanes
No improvements needed at County Line/Duncan Plains (separate Del Co. project)
Assume rural design for County Line
Assume urban/New Albany design for Fancher/Green Chapel connector
80 foot RW for future County Line Road
120 foot RW for Fancher/Green Chapel connection

$300	Rural roadway widening/reconstruction (per lane-foot)
$400	Urban new roadway (per lane-foot)
$ 150,000	Traffic signal cost

County Line Road Improvements	Length	# of Lanes	Unit Cost	Subtotal	30% Contingency	15% Engineering	8% CA/CI	Total	Right-of-Way Length	New width	New Area	Cost/Acre	Total Cost
Fancher to Duncan Plains	9240	1	$300	$ 2,770,000	$ 830,000	$ 420,000	$ 220,000	$ 4,240,000	9240	20	4.24	$ 300,000	$ 1,270,000
culvert S of Robins Rd	1	1	$500,000	$ 500,000	$ 150,000	$ 80,000	$ 40,000	$ 770,000	0	0	0.00	$ 300,000	$ -
Fancher to Duncan Plains (mill-fill)	9240	2	$22	$ 410,000	$ 120,000	$ 60,000	$ 30,000	$ 620,000	9240	0	0	$ 300,000	$ -
Fancher to new alignment	1100	3	$400	$ 1,320,000	$ 400,000	$ 200,000	$ 110,000	$ 2,030,000	1100	20	0.51	$ 300,000	$ 150,000
New alignment north of US 62	2750	3	$400	$ 3,300,000	$ 990,000	$ 500,000	$ 260,000	$ 5,050,000	2750	80	5.05	$ 300,000	$ 1,520,000
Roundabout @ County Line/Tippet	1	1	$500,000	$ 500,000	$ 150,000	$ 80,000	$ 40,000	$ 770,000					
Tippet	250	2	$300	$ 150,000	$ 50,000	$ 20,000	$ 10,000	$ 230,000	100	60	0.14	$ 300,000	$ 40,000
Beech Road (as part of County Line/Beech realignment)													
existing alignment to US 62	1800	3	$400	$ 2,160,000	$ 650,000	$ 320,000	$ 170,000	$ 3,300,000	1800	80	3.31	$ 300,000	$ 990,000
cul-de-sac	250	2	$300	$ 150,000	$ 50,000	$ 20,000	$ 10,000	$ 230,000	100	60	0.14	$ 300,000	$ 40,000
Traffic signal at US 62	1	1	$ 150,000	$ 150,000	$ 50,000	$ 20,000	$ 10,000	$ 230,000					
Fancher Road Improvements (as part of Fancher/Green Chapel realignment)													
County Line to new alignment	3000	4	$300	$ 3,600,000	$ 1,080,000	$ 540,000	$ 290,000	$ 5,510,000	3000	60	4.13	$ 300,000	$ 1,240,000
New alignment north of US 62	1900	5	$400	$ 3,800,000	$ 1,140,000	$ 570,000	$ 300,000	$ 5,810,000	1900	120	5.23	$ 300,000	$ 1,570,000
Roundabout @ County Line/Fancher	1	1	$500,000	$ 500,000	$ 150,000	$ 80,000	$ 40,000	$ 770,000					
cul-de-sac	250	2	$400	$ 200,000	$ 60,000	$ 30,000	$ 20,000	$ 310,000					
Green Chapel													
US 62 to existing alignment	1900	5	$400	$ 3,800,000	$ 1,140,000	$ 570,000	$ 300,000	$ 5,810,000	1900	120	5.23	$ 300,000	$ 1,570,000
cul-de-sac	250	2	$400	$ 200,000	$ 60,000	$ 30,000	$ 20,000	$ 310,000	100	60	0.14	$ 300,000	$ 40,000
Traffic signal at US 62	1	1	$ 150,000	$ 150,000	$ 50,000	$ 20,000	$ 10,000	$ 230,000					

Fancher Road Project Cost (w/o RW) - West of US 62	$ 12,400,000	$ 18,750,000	**Fancher Road Project RW Cost - West of US 62**	$ 2,810,000	$ 4,420,000
Green Chapel Project Cost (w/o RW) - East of US 62	$ 6,350,000		**Green Chapel Project RW Cost - East of US 62**	$ 1,610,000	
County Line Road Project Cost (w/o RW)	$ 8,080,000	$ 11,840,000	**County Line Road Project RW Cost**	$ 1,710,000	$ 2,740,000
Beech Road (w/o RW) Project Cost	$ 3,760,000		**Beech Road Project RW Cost**	$ 1,030,000	
County Line Road (w/o RW) Project Cost	$ 5,630,000	$ 5,630,000	**County Line Road Project RW Cost**	$ 1,270,000	$ 1,270,000
Project Cost (w/o RW)	$ 36,220,000		**Total R/W Cost**	$ 8,430,000	

Total Project Cost including R/W (Alternative 1 + Alternative 2) $ 44,650,000

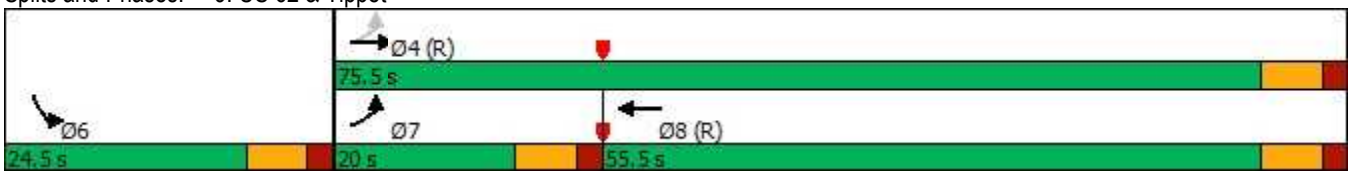
Clover Valley cost savings (future widening not needed if Fancher/Green Chapel connection is made)

	Length	# of Lanes	Unit Cost	Subtotal	30% Contingency	15% Engineering	8% CA/CI	Total	Right-of-Way Length	New width	New Area	Cost/Acre	
Fancher to Duncan Plains	4800	2	$400	$ 3,840,000	$ 1,150,000	$ 580,000	$ 310,000	$ 5,880,000	4800	40	4.41	$ 300,000	$ 1,320,000

Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	90	890	890	10
Future Volume (vph)	90	890	890	10
Turn Type	pm+pt	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases	4			
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	7.0	20.0	20.0	10.0
Minimum Split (s)	13.5	26.5	26.5	24.5
Total Split (s)	20.0	75.5	55.5	24.5
Total Split (%)	20.0%	75.5%	55.5%	24.5%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)	80.2	81.5	70.1	10.1
Actuated g/C Ratio	0.80	0.82	0.70	0.10
v/c Ratio	0.32	0.64	0.77	0.37
Control Delay	5.6	7.4	12.1	17.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.6	7.4	12.1	17.4
LOS	A	A	B	B
Approach Delay		7.2	12.1	17.4
Approach LOS		A	B	B

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 79.1%	ICU Level of Service D
Analysis Period (min) 15	

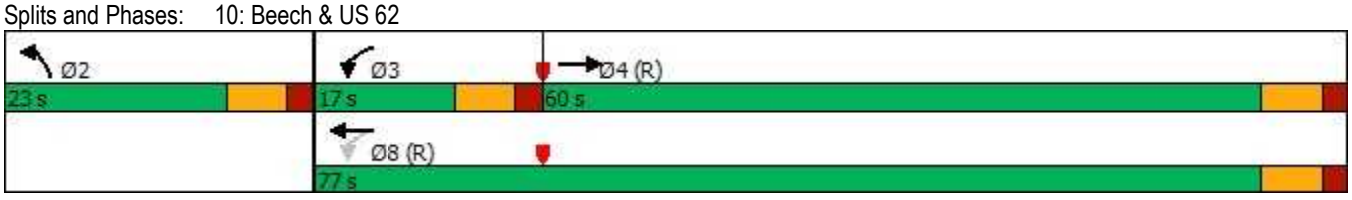
Splits and Phases: 9: US 62 & Tippet



Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	890	60	890	20
Future Volume (vph)	890	60	890	20
Turn Type	NA	pm+pt	NA	Prot
Protected Phases	4	3	8	2
Permitted Phases		8		
Detector Phase	4	3	8	2
Switch Phase				
Minimum Initial (s)	20.0	7.0	20.0	10.0
Minimum Split (s)	26.5	13.5	26.5	16.5
Total Split (s)	60.0	17.0	77.0	23.0
Total Split (%)	60.0%	17.0%	77.0%	23.0%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes		
Recall Mode	C-Max	None	C-Max	None
Act Effct Green (s)	65.4	76.3	76.3	10.7
Actuated g/C Ratio	0.65	0.76	0.76	0.11
v/c Ratio	0.80	0.23	0.68	0.54
Control Delay	14.6	5.3	10.9	17.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	14.6	5.3	10.9	17.3
LOS	B	A	B	B
Approach Delay	14.6		10.5	17.3
Approach LOS	B		B	B

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 12.9	Intersection LOS: B
Intersection Capacity Utilization 69.8%	ICU Level of Service C
Analysis Period (min) 15	

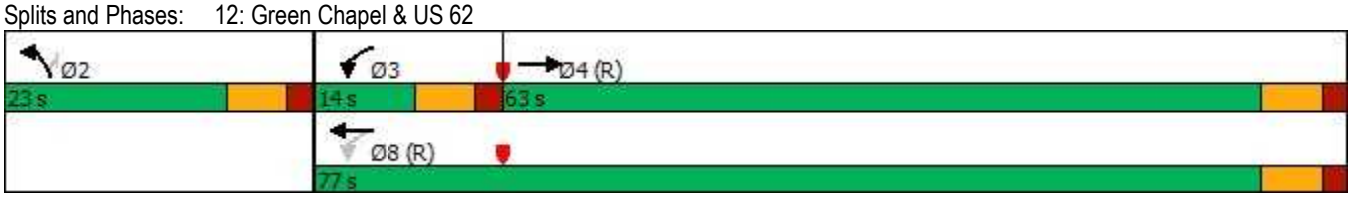
Splits and Phases: 10: Beech & US 62



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1170	120	750	220	280
Future Volume (vph)	1170	120	750	220	280
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	20.0	7.0	20.0	10.0	10.0
Minimum Split (s)	26.5	13.5	26.5	16.5	16.5
Total Split (s)	63.0	14.0	77.0	23.0	23.0
Total Split (%)	63.0%	14.0%	77.0%	23.0%	23.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Max	None	C-Max	None	None
Act Effct Green (s)	57.3	71.2	71.2	15.8	15.8
Actuated g/C Ratio	0.57	0.71	0.71	0.16	0.16
v/c Ratio	1.29	0.63	0.62	0.85	0.76
Control Delay	156.7	26.2	12.1	68.4	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	156.7	26.2	12.1	68.4	30.6
LOS	F	C	B	E	C
Approach Delay	156.7		14.0	47.2	
Approach LOS	F		B	D	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 88.7	Intersection LOS: F
Intersection Capacity Utilization 102.1%	ICU Level of Service G
Analysis Period (min) 15	

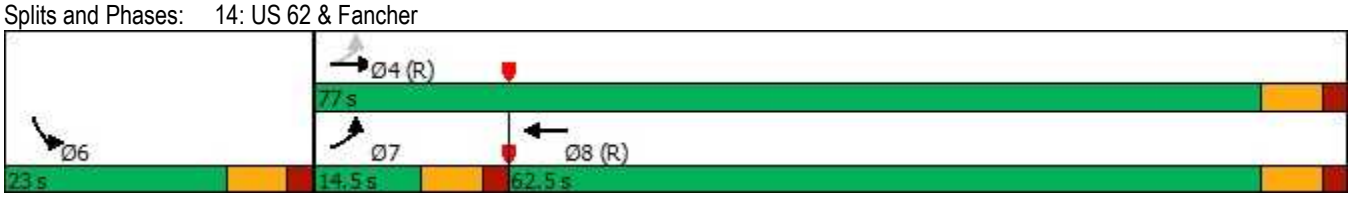
Splits and Phases: 12: Green Chapel & US 62



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	240	1190	970	30
Future Volume (vph)	240	1190	970	30
Turn Type	pm+pt	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases	4			
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	7.0	20.0	20.0	10.0
Minimum Split (s)	13.5	26.5	26.5	16.5
Total Split (s)	14.5	77.0	62.5	23.0
Total Split (%)	14.5%	77.0%	62.5%	23.0%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)	76.3	76.3	56.0	10.7
Actuated g/C Ratio	0.76	0.76	0.56	0.11
v/c Ratio	0.82	0.91	1.05	0.52
Control Delay	26.1	16.7	63.9	20.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	26.1	16.7	63.9	20.3
LOS	C	B	E	C
Approach Delay		18.3	63.9	20.3
Approach LOS		B	E	C

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 36.2	Intersection LOS: D
Intersection Capacity Utilization 90.7%	ICU Level of Service E
Analysis Period (min) 15	

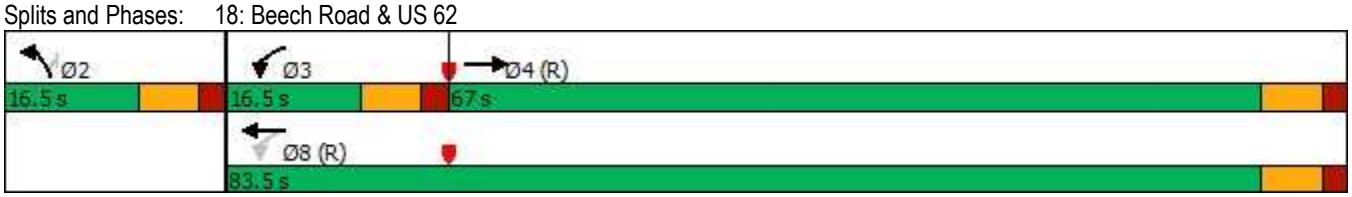
Splits and Phases: 14: US 62 & Fancher



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	970	60	970	10	150
Future Volume (vph)	970	60	970	10	150
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	30.0	7.0	30.0	10.0	10.0
Minimum Split (s)	36.5	16.5	36.5	16.5	16.5
Total Split (s)	67.0	16.5	83.5	16.5	16.5
Total Split (%)	67.0%	16.5%	83.5%	16.5%	16.5%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Max	None	C-Max	None	None
Act Effct Green (s)	66.0	77.0	77.0	10.0	10.0
Actuated g/C Ratio	0.66	0.77	0.77	0.10	0.10
v/c Ratio	0.86	0.27	0.74	0.06	0.53
Control Delay	23.6	5.6	10.0	41.8	13.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	5.6	10.0	41.8	13.8
LOS	C	A	A	D	B
Approach Delay	23.6		9.7	15.6	
Approach LOS	C		A	B	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.4	Intersection LOS: B
Intersection Capacity Utilization 71.2%	ICU Level of Service C
Analysis Period (min) 15	

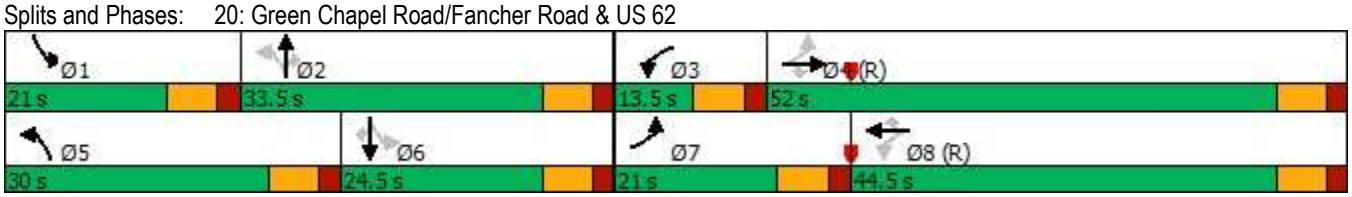
Splits and Phases: 18: Beech Road & US 62



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	710	110	20	580	30	260	300	60	30	130	70
Future Volume (vph)	170	710	110	20	580	30	260	300	60	30	130	70
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.5	26.5	26.5	13.5	26.5	26.5	13.5	26.5	26.5	13.5	24.5	24.5
Total Split (s)	21.0	52.0	52.0	13.5	44.5	44.5	30.0	33.5	33.5	21.0	24.5	24.5
Total Split (%)	17.5%	43.3%	43.3%	11.3%	37.1%	37.1%	25.0%	27.9%	27.9%	17.5%	20.4%	20.4%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	65.4	57.4	57.4	53.8	46.8	46.8	41.5	32.9	32.9	21.6	14.2	14.2
Actuated g/C Ratio	0.54	0.48	0.48	0.45	0.39	0.39	0.35	0.27	0.27	0.18	0.12	0.12
v/c Ratio	0.74	0.87	0.14	0.13	0.87	0.04	0.64	0.64	0.11	0.14	0.64	0.18
Control Delay	41.9	42.3	0.3	17.4	49.5	0.1	37.0	45.2	0.4	27.2	63.5	0.9
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	41.9	42.3	0.3	17.4	49.5	0.1	37.0	45.2	0.4	27.2	63.5	0.9
LOS	D	D	A	B	D	A	D	D	A	C	E	A
Approach Delay		37.6			46.1			37.4			39.7	
Approach LOS		D			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.87	
Intersection Signal Delay: 39.9	Intersection LOS: D
Intersection Capacity Utilization 87.6%	ICU Level of Service E
Analysis Period (min) 15	

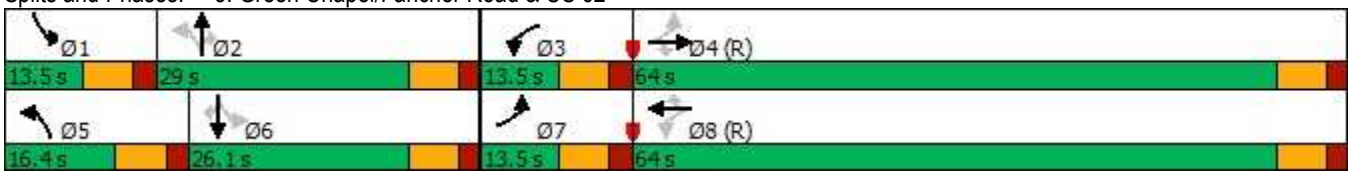
Splits and Phases: 20: Green Chapel Road/Fancher Road & US 62



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	790	90	20	640	30	200	300	60	30	130	10
Future Volume (vph)	20	790	90	20	640	30	200	300	60	30	130	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.5	26.5	26.5	13.5	26.5	26.5	13.5	24.5	24.5	13.5	16.5	16.5
Total Split (s)	13.5	64.0	64.0	13.5	64.0	64.0	16.4	29.0	29.0	13.5	26.1	26.1
Total Split (%)	11.3%	53.3%	53.3%	11.3%	53.3%	53.3%	13.7%	24.2%	24.2%	11.3%	21.8%	21.8%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	70.5	66.3	66.3	70.5	66.3	66.3	30.4	24.5	24.5	23.2	16.2	16.2
Actuated g/C Ratio	0.59	0.55	0.55	0.59	0.55	0.55	0.25	0.20	0.20	0.19	0.14	0.14
v/c Ratio	0.07	0.83	0.10	0.12	0.68	0.04	0.75	0.86	0.15	0.19	0.56	0.03
Control Delay	12.8	43.1	5.1	11.7	26.0	0.1	53.7	68.6	0.7	33.5	56.6	0.2
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	12.8	43.1	5.1	11.7	26.0	0.1	53.7	68.6	0.7	33.5	56.6	0.2
LOS	B	D	A	B	C	A	D	E	A	C	E	A
Approach Delay		38.6			24.4			56.0			49.1	
Approach LOS		D			C			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 39.3	Intersection LOS: D
Intersection Capacity Utilization 79.5%	ICU Level of Service D
Analysis Period (min) 15	

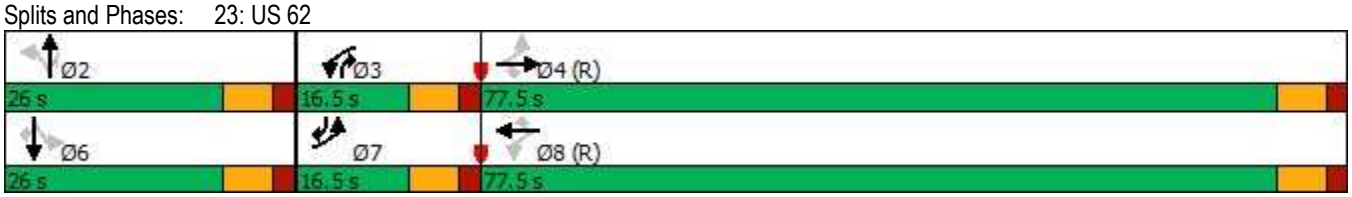
Splits and Phases: 3: Green Chapel/Fancher Road & US 62



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	880	20	30	880	10	40	60	80	10	30	60
Future Volume (vph)	70	880	20	30	880	10	40	60	80	10	30	60
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	pm+ov	Perm	NA	pm+ov
Protected Phases	7	4		3	8			2	3		6	7
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	3	6	6	7
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	10.0	10.0	7.0	10.0	10.0	7.0
Minimum Split (s)	13.5	26.5	26.5	13.5	26.5	26.5	16.5	16.5	13.5	16.5	16.5	13.5
Total Split (s)	16.5	77.5	77.5	16.5	77.5	77.5	26.0	26.0	16.5	26.0	26.0	16.5
Total Split (%)	13.8%	64.6%	64.6%	13.8%	64.6%	64.6%	21.7%	21.7%	13.8%	21.7%	21.7%	13.8%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag			Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes			Yes			Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	93.1	86.0	86.0	92.9	85.9	85.9	10.8	10.8	21.0	10.8	10.8	21.1
Actuated g/C Ratio	0.78	0.72	0.72	0.77	0.72	0.72	0.09	0.09	0.18	0.09	0.09	0.18
v/c Ratio	0.21	0.72	0.02	0.09	0.72	0.01	0.35	0.39	0.25	0.09	0.20	0.20
Control Delay	4.1	15.2	0.1	3.9	23.7	0.0	59.1	58.2	9.8	51.1	53.0	10.6
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	4.1	15.2	0.1	3.9	23.7	0.0	59.1	58.2	9.8	51.1	53.0	10.6
LOS	A	B	A	A	C	A	E	E	A	D	D	B
Approach Delay		14.1			22.8			36.8			27.5	
Approach LOS		B			C			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 20.3	Intersection LOS: C
Intersection Capacity Utilization 77.3%	ICU Level of Service D
Analysis Period (min) 15	

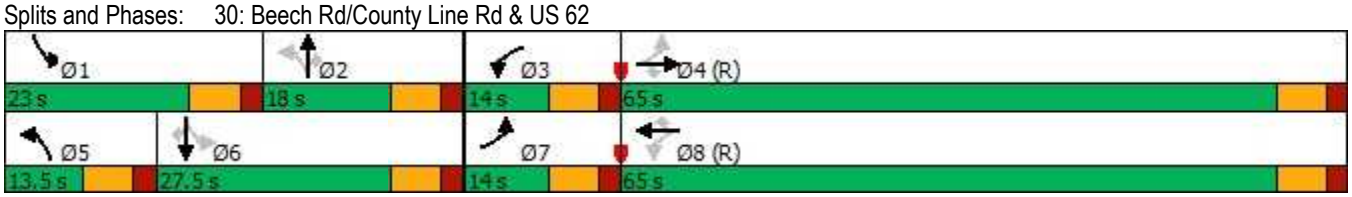
Splits and Phases: 23: US 62



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	720	20	60	720	150	40	60	130	60	50	60
Future Volume (vph)	80	720	20	60	720	150	40	60	130	60	50	60
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.5	26.5	26.5	13.5	26.5	26.5	13.5	16.5	16.5	13.5	16.5	16.5
Total Split (s)	14.0	65.0	65.0	14.0	65.0	65.0	13.5	18.0	18.0	23.0	27.5	27.5
Total Split (%)	11.7%	54.2%	54.2%	11.7%	54.2%	54.2%	11.3%	15.0%	15.0%	19.2%	22.9%	22.9%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	78.3	71.9	71.9	76.3	68.8	68.8	16.4	10.8	10.8	20.9	13.1	13.1
Actuated g/C Ratio	0.65	0.60	0.60	0.64	0.57	0.57	0.14	0.09	0.09	0.17	0.11	0.11
v/c Ratio	0.28	0.70	0.02	0.20	0.73	0.16	0.21	0.39	0.42	0.27	0.27	0.21
Control Delay	9.8	24.2	0.1	7.2	23.3	1.9	38.9	58.2	5.0	39.9	51.2	1.6
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	9.8	24.2	0.1	7.2	23.3	1.9	38.9	58.2	5.0	39.9	51.2	1.6
LOS	A	C	A	A	C	A	D	E	A	D	D	A
Approach Delay		22.2			18.9			24.7			29.7	
Approach LOS		C			B			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 21.6	Intersection LOS: C
Intersection Capacity Utilization 70.0%	ICU Level of Service C
Analysis Period (min) 15	

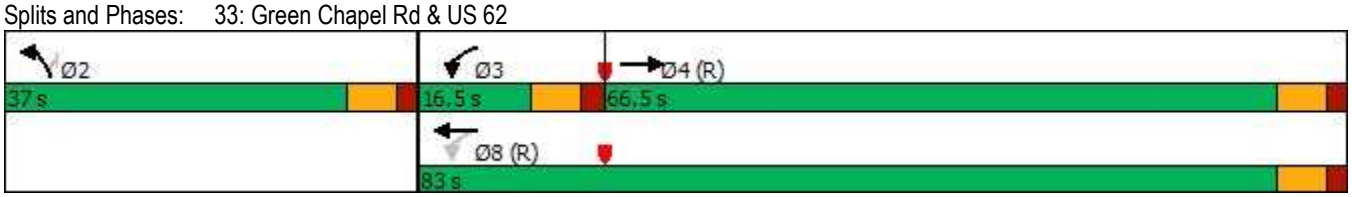
Splits and Phases: 30: Beech Rd/County Line Rd & US 62



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	760	90	620	330	110
Future Volume (vph)	760	90	620	330	110
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	20.0	7.0	20.0	10.0	10.0
Minimum Split (s)	26.5	16.5	26.5	24.5	24.5
Total Split (s)	66.5	16.5	83.0	37.0	37.0
Total Split (%)	55.4%	13.8%	69.2%	30.8%	30.8%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Max	None	C-Max	None	None
Act Effct Green (s)	64.5	79.3	79.3	27.7	27.7
Actuated g/C Ratio	0.54	0.66	0.66	0.23	0.23
v/c Ratio	0.99	0.54	0.55	0.88	0.26
Control Delay	55.8	36.7	12.5	67.0	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	36.7	12.5	67.0	7.7
LOS	E	D	B	E	A
Approach Delay	55.8		15.6	52.1	
Approach LOS	E		B	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 41.1	Intersection LOS: D
Intersection Capacity Utilization 88.9%	ICU Level of Service E
Analysis Period (min) 15	

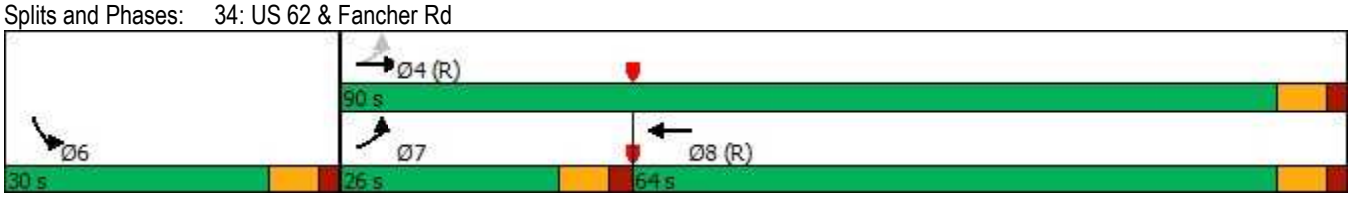
Splits and Phases: 33: Green Chapel Rd & US 62



Lane Group	EBL	EBT	WBT	SBL
Lane Configurations				
Traffic Volume (vph)	110	780	630	30
Future Volume (vph)	110	780	630	30
Turn Type	pm+pt	NA	NA	Prot
Protected Phases	7	4	8	6
Permitted Phases	4			
Detector Phase	7	4	8	6
Switch Phase				
Minimum Initial (s)	7.0	20.0	20.0	10.0
Minimum Split (s)	13.5	26.5	26.5	26.5
Total Split (s)	26.0	90.0	64.0	30.0
Total Split (%)	21.7%	75.0%	53.3%	25.0%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag	
Lead-Lag Optimize?	Yes		Yes	
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)	99.8	101.1	85.8	10.5
Actuated g/C Ratio	0.83	0.84	0.72	0.09
v/c Ratio	0.23	0.54	0.54	0.44
Control Delay	5.2	13.8	10.9	30.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.2	13.8	10.9	30.5
LOS	A	B	B	C
Approach Delay		12.7	10.9	30.5
Approach LOS		B	B	C

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 12.8	Intersection LOS: B
Intersection Capacity Utilization 65.7%	ICU Level of Service C
Analysis Period (min) 15	

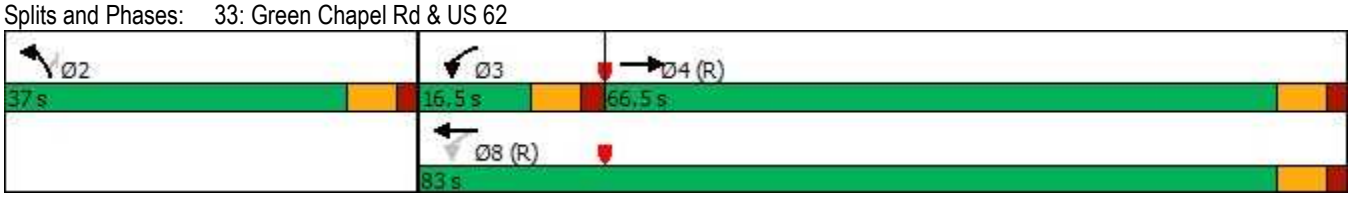
Splits and Phases: 34: US 62 & Fancher Rd



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	760	90	620	330	110
Future Volume (vph)	760	90	620	330	110
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	20.0	7.0	20.0	10.0	10.0
Minimum Split (s)	26.5	16.5	26.5	24.5	24.5
Total Split (s)	66.5	16.5	83.0	37.0	37.0
Total Split (%)	55.4%	13.8%	69.2%	30.8%	30.8%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Max	None	C-Max	None	None
Act Effct Green (s)	64.5	79.3	79.3	27.7	27.7
Actuated g/C Ratio	0.54	0.66	0.66	0.23	0.23
v/c Ratio	0.99	0.54	0.55	0.88	0.26
Control Delay	55.8	36.7	12.5	67.0	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	55.8	36.7	12.5	67.0	7.7
LOS	E	D	B	E	A
Approach Delay	55.8		15.6	52.1	
Approach LOS	E		B	D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 41.1	Intersection LOS: D
Intersection Capacity Utilization 88.9%	ICU Level of Service E
Analysis Period (min) 15	

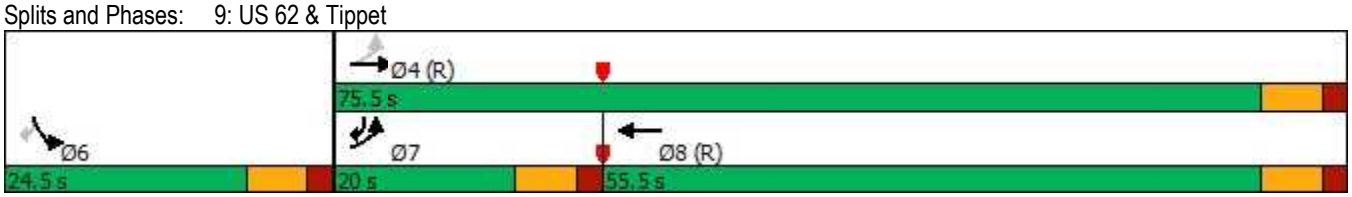
Splits and Phases: 33: Green Chapel Rd & US 62



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	390	1950	1950	100	320
Future Volume (vph)	390	1950	1950	100	320
Turn Type	pm+pt	NA	NA	Prot	pm+ov
Protected Phases	7	4	8	6	7
Permitted Phases	4				6
Detector Phase	7	4	8	6	7
Switch Phase					
Minimum Initial (s)	7.0	20.0	20.0	10.0	7.0
Minimum Split (s)	13.5	26.5	26.5	24.5	13.5
Total Split (s)	20.0	75.5	55.5	24.5	20.0
Total Split (%)	20.0%	75.5%	55.5%	24.5%	20.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag		Lead
Lead-Lag Optimize?	Yes		Yes		Yes
Recall Mode	None	C-Max	C-Max	None	None
Act Effct Green (s)	74.9	74.9	49.0	12.1	38.0
Actuated g/C Ratio	0.75	0.75	0.49	0.12	0.38
v/c Ratio	1.02	0.80	1.39	0.51	0.58
Control Delay	79.6	11.4	198.5	49.2	29.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	11.4	198.5	49.2	29.1
LOS	E	B	F	D	C
Approach Delay		22.8	198.5	33.9	
Approach LOS		C	F	C	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.39	
Intersection Signal Delay: 101.5	Intersection LOS: F
Intersection Capacity Utilization 107.7%	ICU Level of Service G
Analysis Period (min) 15	

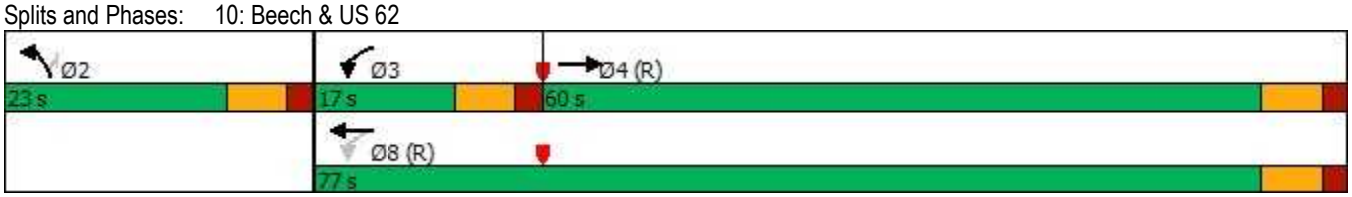
Splits and Phases: 9: US 62 & Tippet



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1980	90	1980	190	200
Future Volume (vph)	1980	90	1980	190	200
Turn Type	NA	pm+pt	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases		8			2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	20.0	7.0	20.0	10.0	10.0
Minimum Split (s)	26.5	13.5	26.5	16.5	16.5
Total Split (s)	60.0	17.0	77.0	23.0	23.0
Total Split (%)	60.0%	17.0%	77.0%	23.0%	23.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	C-Max	None	C-Max	None	None
Act Effct Green (s)	60.2	71.9	71.9	15.1	15.1
Actuated g/C Ratio	0.60	0.72	0.72	0.15	0.15
v/c Ratio	1.06	0.46	0.85	0.78	0.55
Control Delay	51.2	12.1	18.4	60.9	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.2	12.1	18.4	60.9	14.7
LOS	D	B	B	E	B
Approach Delay	51.2		18.1	37.3	
Approach LOS	D		B	D	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 34.8	Intersection LOS: C
Intersection Capacity Utilization 89.9%	ICU Level of Service E
Analysis Period (min) 15	

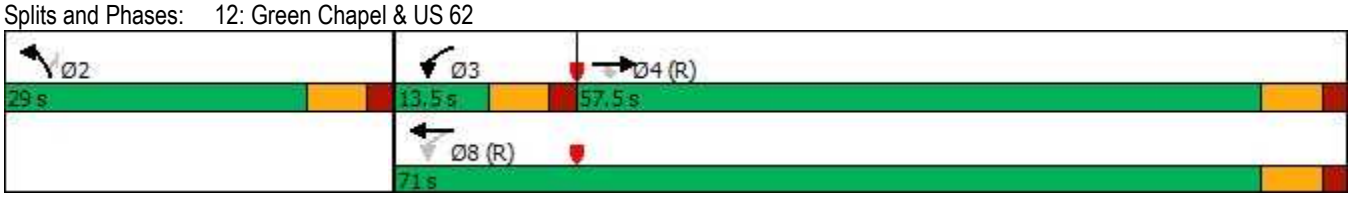
Splits and Phases: 10: Beech & US 62



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	2100	380	120	1350	880	280
Future Volume (vph)	2100	380	120	1350	880	280
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	20.0	20.0	7.0	20.0	10.0	10.0
Minimum Split (s)	26.5	26.5	13.5	26.5	16.5	16.5
Total Split (s)	57.5	57.5	13.5	71.0	29.0	29.0
Total Split (%)	57.5%	57.5%	13.5%	71.0%	29.0%	29.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Act Effct Green (s)	51.0	51.0	64.5	64.5	22.5	22.5
Actuated g/C Ratio	0.51	0.51	0.64	0.64	0.22	0.22
v/c Ratio	1.27	0.44	0.66	0.64	1.24	0.66
Control Delay	143.3	6.2	33.7	15.7	153.4	27.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	143.3	6.2	33.7	15.7	153.4	27.3
LOS	F	A	C	B	F	C
Approach Delay	122.3			17.2	123.0	
Approach LOS	F			B	F	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.27	
Intersection Signal Delay: 92.2	Intersection LOS: F
Intersection Capacity Utilization 106.1%	ICU Level of Service G
Analysis Period (min) 15	

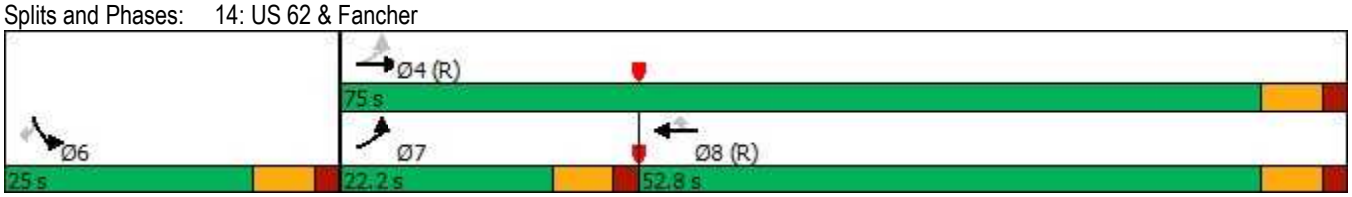
Splits and Phases: 12: Green Chapel & US 62



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	330	1860	1520	370	300	140
Future Volume (vph)	330	1860	1520	370	300	140
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Detector Phase	7	4	8	8	6	6
Switch Phase						
Minimum Initial (s)	7.0	20.0	20.0	20.0	10.0	10.0
Minimum Split (s)	13.5	26.5	26.5	26.5	16.5	16.5
Total Split (s)	22.2	75.0	52.8	52.8	25.0	25.0
Total Split (%)	22.2%	75.0%	52.8%	52.8%	25.0%	25.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	68.5	68.5	46.3	46.3	18.5	18.5
Actuated g/C Ratio	0.68	0.68	0.46	0.46	0.18	0.18
v/c Ratio	1.02	0.83	1.01	0.44	1.00	0.37
Control Delay	50.6	21.5	52.0	4.8	91.3	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	21.5	52.0	4.8	91.3	8.7
LOS	D	C	D	A	F	A
Approach Delay		25.9	42.8		65.0	
Approach LOS		C	D		E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay: 36.8	Intersection LOS: D
Intersection Capacity Utilization 93.2%	ICU Level of Service F
Analysis Period (min) 15	

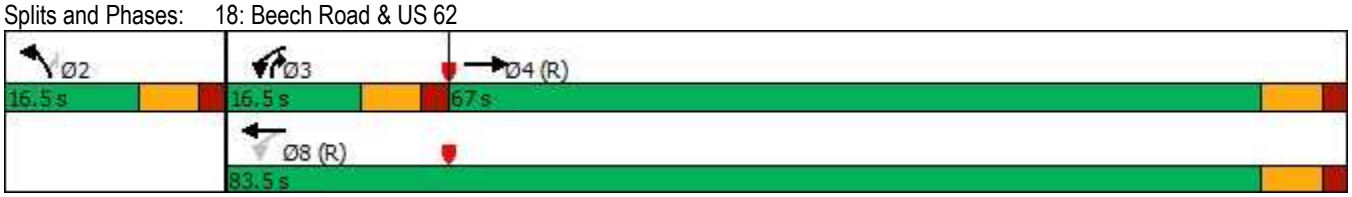
Splits and Phases: 14: US 62 & Fancher



Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	2240	150	2240	50	340
Future Volume (vph)	2240	150	2240	50	340
Turn Type	NA	pm+pt	NA	Prot	pm+ov
Protected Phases	4	3	8	2	3
Permitted Phases		8			2
Detector Phase	4	3	8	2	3
Switch Phase					
Minimum Initial (s)	30.0	7.0	30.0	10.0	7.0
Minimum Split (s)	36.5	16.5	36.5	16.5	16.5
Total Split (s)	67.0	16.5	83.5	16.5	16.5
Total Split (%)	67.0%	16.5%	83.5%	16.5%	16.5%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes			Yes
Recall Mode	C-Max	None	C-Max	None	None
Act Effct Green (s)	61.6	80.3	81.6	10.0	25.4
Actuated g/C Ratio	0.62	0.80	0.82	0.10	0.25
v/c Ratio	1.13	0.56	0.84	0.31	0.92
Control Delay	85.3	25.8	11.4	46.8	64.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	85.3	25.8	11.4	46.8	64.5
LOS	F	C	B	D	E
Approach Delay	85.3		12.3	62.2	
Approach LOS	F		B	E	

Intersection Summary	
Cycle Length: 100	
Actuated Cycle Length: 100	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.13	
Intersection Signal Delay: 48.9	Intersection LOS: D
Intersection Capacity Utilization 95.4%	ICU Level of Service F
Analysis Period (min) 15	

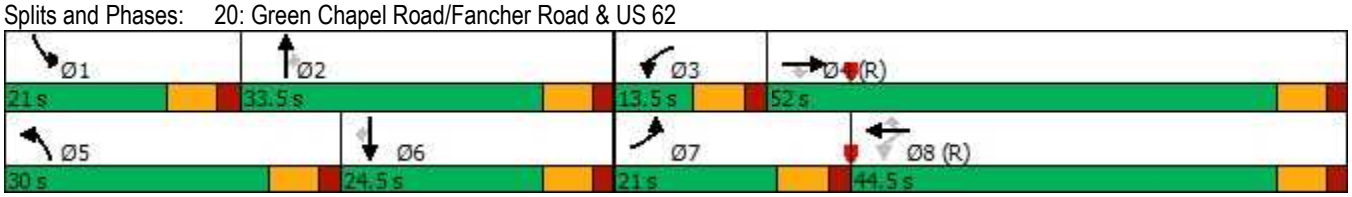
Splits and Phases: 18: Beech Road & US 62



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	480	1540	360	20	1260	370	840	500	60	300	210	210
Future Volume (vph)	480	1540	360	20	1260	370	840	500	60	300	210	210
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4	8		8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.5	26.5	26.5	13.5	26.5	26.5	13.5	26.5	26.5	13.5	24.5	24.5
Total Split (s)	21.0	52.0	52.0	13.5	44.5	44.5	30.0	33.5	33.5	21.0	24.5	24.5
Total Split (%)	17.5%	43.3%	43.3%	11.3%	37.1%	37.1%	25.0%	27.9%	27.9%	17.5%	20.4%	20.4%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	17.9	54.3	54.3	45.0	38.0	38.0	23.5	24.0	24.0	14.1	14.6	14.6
Actuated g/C Ratio	0.15	0.45	0.45	0.38	0.32	0.32	0.20	0.20	0.20	0.12	0.12	0.12
v/c Ratio	1.02	1.05	0.46	0.13	1.22	0.59	1.36	0.77	0.13	0.81	0.53	0.53
Control Delay	95.9	68.9	11.9	18.2	144.9	14.8	208.7	53.0	0.6	67.8	53.5	7.5
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	95.9	68.9	11.9	18.2	144.9	14.8	208.7	53.0	0.6	67.8	53.5	7.5
LOS	F	E	B	B	F	B	F	D	A	E	D	A
Approach Delay		65.8			114.2			144.3			46.0	
Approach LOS		E			F			F			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.36	
Intersection Signal Delay: 94.3	Intersection LOS: F
Intersection Capacity Utilization 102.5%	ICU Level of Service G
Analysis Period (min) 15	

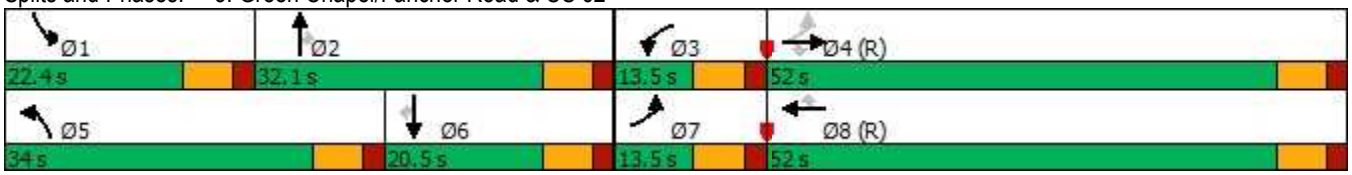
Splits and Phases: 20: Green Chapel Road/Fancher Road & US 62



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	1520	340	20	1240	310	790	370	60	260	160	70
Future Volume (vph)	90	1520	340	20	1240	310	790	370	60	260	160	70
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.5	26.5	26.5	13.5	26.5	26.5	13.5	24.5	24.5	13.5	16.5	16.5
Total Split (s)	13.5	52.0	52.0	13.5	52.0	52.0	34.0	32.1	32.1	22.4	20.5	20.5
Total Split (%)	11.3%	43.3%	43.3%	11.3%	43.3%	43.3%	28.3%	26.8%	26.8%	18.7%	17.1%	17.1%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	58.2	53.4	53.4	7.0	47.1	47.1	27.5	24.7	24.7	14.3	11.5	11.5
Actuated g/C Ratio	0.48	0.44	0.44	0.06	0.39	0.39	0.23	0.21	0.21	0.12	0.10	0.10
v/c Ratio	0.55	1.05	0.45	0.11	0.97	0.43	1.09	0.55	0.15	0.69	0.51	0.22
Control Delay	19.3	64.4	15.4	54.9	54.5	9.0	103.9	46.0	0.7	60.0	56.8	1.5
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	19.3	64.4	15.4	54.9	54.5	9.0	103.9	46.0	0.7	60.0	56.8	1.5
LOS	B	E	B	D	D	A	F	D	A	E	E	A
Approach Delay		53.8			45.5			81.3			50.6	
Approach LOS		D			D			F			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 57.4	Intersection LOS: E
Intersection Capacity Utilization 100.4%	ICU Level of Service G
Analysis Period (min) 15	

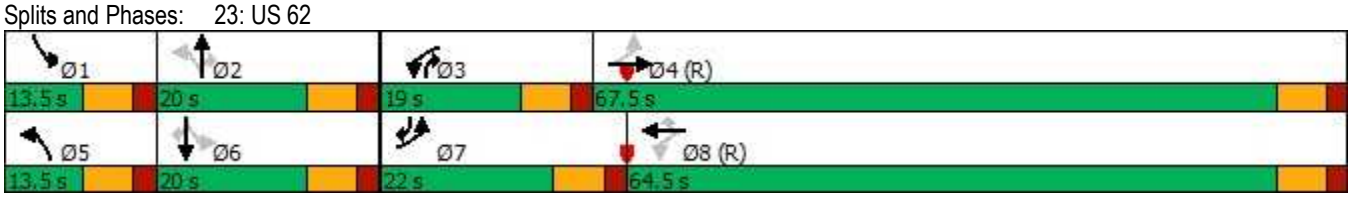
Splits and Phases: 3: Green Chapel/Fancher Road & US 62



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1900	30	90	1900	60	60	290	200	50	130	100
Future Volume (vph)	130	1900	30	90	1900	60	60	290	200	50	130	100
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8		5	2	3	1	6	7
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	20.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	13.5	26.5	26.5	13.5	26.5	26.5	13.5	16.5	13.5	13.5	16.5	13.5
Total Split (s)	22.0	67.5	67.5	19.0	64.5	64.5	13.5	20.0	19.0	13.5	20.0	22.0
Total Split (%)	18.3%	56.3%	56.3%	15.8%	53.8%	53.8%	11.3%	16.7%	15.8%	11.3%	16.7%	18.3%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	78.4	67.7	67.7	74.6	65.8	65.8	18.8	13.2	28.5	18.8	13.2	30.4
Actuated g/C Ratio	0.65	0.56	0.56	0.62	0.55	0.55	0.16	0.11	0.24	0.16	0.11	0.25
v/c Ratio	0.64	1.03	0.03	0.51	1.06	0.07	0.29	0.81	0.49	0.31	0.36	0.23
Control Delay	35.4	56.9	0.1	20.2	63.3	1.2	41.6	68.8	26.0	42.7	52.2	10.5
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	35.4	56.9	0.1	20.2	63.3	1.2	41.6	68.8	26.0	42.7	52.2	10.5
LOS	D	E	A	C	E	A	D	E	C	D	D	B
Approach Delay		54.7			59.6			50.3			35.6	
Approach LOS		D			E			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 55.2	Intersection LOS: E
Intersection Capacity Utilization 95.6%	ICU Level of Service F
Analysis Period (min) 15	

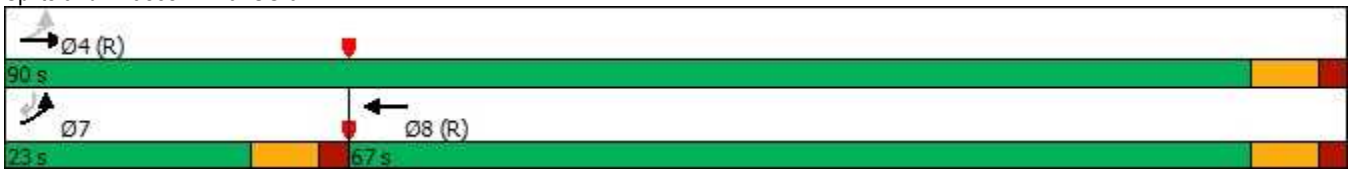
Splits and Phases: 23: US 62



Lane Group	EBL	EBT	WBT	SBR
Lane Configurations				
Traffic Volume (vph)	200	2010	1910	200
Future Volume (vph)	200	2010	1910	200
Turn Type	pm+pt	NA	NA	Perm
Protected Phases	7	4	8	
Permitted Phases	4			7
Detector Phase	7	4	8	7
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	11.5	24.5	24.5	11.5
Total Split (s)	23.0	90.0	67.0	23.0
Total Split (%)	25.6%	100.0%	74.4%	25.6%
Yellow Time (s)	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes		Yes	Yes
Recall Mode	None	C-Max	C-Max	None
Act Effct Green (s)	83.5	90.0	65.2	11.8
Actuated g/C Ratio	0.93	1.00	0.72	0.13
v/c Ratio	0.69	0.62	0.86	0.56
Control Delay	30.9	0.8	14.6	36.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	30.9	0.8	14.6	36.8
LOS	C	A	B	D
Approach Delay		3.5	14.6	
Approach LOS		A	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 10.0	Intersection LOS: B
Intersection Capacity Utilization 77.9%	ICU Level of Service D
Analysis Period (min) 15	

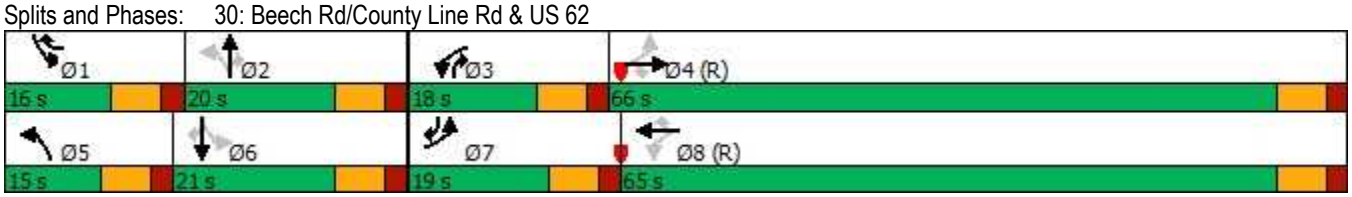
Splits and Phases: 26: US 62



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1850	30	90	1850	540	60	340	200	230	270	100
Future Volume (vph)	130	1850	30	90	1850	540	60	340	200	230	270	100
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2	3	1	6	7
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	20.0	20.0	7.0	20.0	7.0	7.0	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	13.5	26.5	26.5	13.5	26.5	13.5	13.5	16.5	13.5	13.5	16.5	13.5
Total Split (s)	19.0	66.0	66.0	18.0	65.0	16.0	15.0	20.0	18.0	16.0	21.0	19.0
Total Split (%)	15.8%	55.0%	55.0%	15.0%	54.2%	13.3%	12.5%	16.7%	15.0%	13.3%	17.5%	15.8%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	None	None	None	None	None	None	None
Act Effct Green (s)	72.5	62.4	62.4	69.5	60.9	76.9	21.5	13.5	28.6	25.3	17.7	34.3
Actuated g/C Ratio	0.60	0.52	0.52	0.58	0.51	0.64	0.18	0.11	0.24	0.21	0.15	0.29
v/c Ratio	0.67	1.09	0.04	0.52	1.12	0.55	0.28	0.93	0.49	1.24	0.56	0.21
Control Delay	37.3	80.5	0.1	25.7	84.5	10.1	39.0	83.5	26.0	177.8	53.6	10.4
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	37.3	80.5	0.1	25.7	84.5	10.1	39.0	83.5	26.0	177.8	53.6	10.4
LOS	D	F	A	C	F	B	D	F	C	F	D	B
Approach Delay		76.5			66.2			59.9			94.0	
Approach LOS		E			E			E			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.24	
Intersection Signal Delay: 72.1	Intersection LOS: E
Intersection Capacity Utilization 102.1%	ICU Level of Service G
Analysis Period (min) 15	

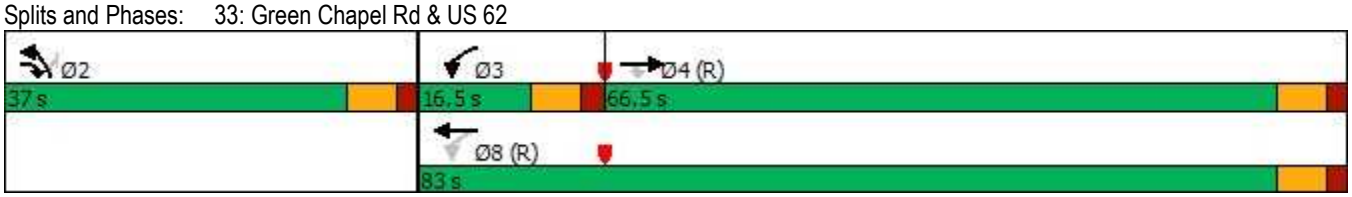
Splits and Phases: 30: Beech Rd/County Line Rd & US 62



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1900	400	90	1550	920	110
Future Volume (vph)	1900	400	90	1550	920	110
Turn Type	NA	pm+ov	pm+pt	NA	Prot	Perm
Protected Phases	4	2	3	8	2	
Permitted Phases		4	8			2
Detector Phase	4	2	3	8	2	2
Switch Phase						
Minimum Initial (s)	20.0	10.0	7.0	20.0	10.0	10.0
Minimum Split (s)	26.5	24.5	16.5	26.5	24.5	24.5
Total Split (s)	66.5	37.0	16.5	83.0	37.0	37.0
Total Split (%)	55.4%	30.8%	13.8%	69.2%	30.8%	30.8%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	61.7	98.7	76.5	76.5	30.5	30.5
Actuated g/C Ratio	0.51	0.82	0.64	0.64	0.25	0.25
v/c Ratio	1.14	0.32	0.53	0.75	1.15	0.25
Control Delay	97.1	0.4	32.0	22.5	120.2	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	97.1	0.4	32.0	22.5	120.2	10.5
LOS	F	A	C	C	F	B
Approach Delay	80.3			23.0	108.4	
Approach LOS	F			C	F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 67.2	Intersection LOS: E
Intersection Capacity Utilization 100.9%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 33: Green Chapel Rd & US 62



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	30	1980	1620	370	300	10
Future Volume (vph)	30	1980	1620	370	300	10
Turn Type	pm+pt	NA	NA	pm+ov	Prot	Perm
Protected Phases	7	4	8	6	6	
Permitted Phases	4			8		6
Detector Phase	7	4	8	6	6	6
Switch Phase						
Minimum Initial (s)	7.0	20.0	20.0	10.0	10.0	10.0
Minimum Split (s)	13.5	26.5	26.5	26.5	26.5	26.5
Total Split (s)	26.0	90.0	64.0	30.0	30.0	30.0
Total Split (%)	21.7%	75.0%	53.3%	25.0%	25.0%	25.0%
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	None	C-Max	C-Max	None	None	None
Act Effct Green (s)	83.7	83.7	75.6	108.0	23.3	23.3
Actuated g/C Ratio	0.70	0.70	0.63	0.90	0.19	0.19
v/c Ratio	0.20	0.87	0.79	0.27	0.95	0.03
Control Delay	12.6	36.0	21.1	0.6	85.4	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.6	36.0	21.1	0.6	85.4	19.5
LOS	B	D	C	A	F	B
Approach Delay		35.7	17.3		83.2	
Approach LOS		D	B		F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 30.6	Intersection LOS: C
Intersection Capacity Utilization 82.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 34: US 62 & Fancher Rd