Appendix B

LEVEL OF SERVICE ANALYSIS PARAMETERS AND INPUT DATA

Table B-1
Two-Lane Highways (Rural Undeveloped Areas)
HCM 2000 Methodology

CORRIDOR-WIDE PARAMETERS

Parameter	Value	Source
Highway class	I	Per *HCM 2000* definition
Lane width	12 feet	Field survey
Terrain	Level	Field survey

SEGMENT DATA ITEMS*

Segment				Input Data								
From	From M.P.	To	To M.P.	Shoulder Width	2002 DHV	2025 DHV	Dir. Split	PHF	% Trucks, Buses	% RVs	% No-Passing	Free-Flow Speed
Fish Haven n. boundary	3.09	St. Charles s. city limit	7.0	2’	331	N/A**	52/48	.90	0%	9%	15%	59.8 mph
300 North St. (St. Charles)	8.35	Bloomington Creek bridge	12.91	5’	341	N/A**	55/45	.85	1%	7%	8%	59.8 mph
Bloomington n. city limit	13.9	Paris s. city limit	14.95	4’	374	435	37/63	.94	1%	12%	0%	59.8 mph
E. 2nd North St. (Paris)	16.25	Lanark Rd.	18.31	1’	378	438	52/48	.84	0%	8%	12%	59.8 mph
Lanark Rd.	18.31	Ovid corner	20.23	1’	411	477	50/50	.70	0%	8%	54%	59.8 mph
Ovid corner	20.23	12th St. overpass (Montpelier)	25.14	2’	380	441	53/47	.88	2%	8%	11%	59.8 mph

* Sources:

1. All volume-related data items except 2025 DHV otained from traffic counts (2025 DHV obtained from study traffic forecast).
2. All geometric data items (shoulder width and % no-passing zones) obtained through field survey.
3. Free flow speed obtained through speed survey.

** Segment analyzed using HIGHPLAN methodology for 2025 (see Table B-2).

Note: All parameter and input data values the same for 2025 as 2002 except DHV.

Table B-2
Two-Lane Highways (Rural Developed Areas)
HIGHPLAN Methodology

CORRIDOR-WIDE PARAMETERS

Parameter	Value	Source
Area type	Rural developed	Per HIGHPLAN definition
Terrain	Level	Field survey
Base capacity	1,700 vph	HIGHPLAN default
Local adj. factor	.92	HIGHPLAN default

SEGMENT DATA ITEMS*

Segment				Input Data						
From	From M.P.	To	To M.P.	Posted Speed	2002 DDHV	2025 DDHV	PHF	% Heavy Vehicles	% No-Passing	Number of Lanes
Northbound										
Idaho-Utah state line	0.00	Fish Haven	2.42	50 mph	222	468	.81	9%	52%	1
Fish Haven	2.42	Fish Haven n. boundary	3.09	35 mph	182	435	.81	7%	19%	1
Fish Haven n. boundary	3.09	St. Charles s. city limit	7.0	65 mph	N/A**	406	.90	9%	15%	1
St. Charles s. city limit	7.0	300 North St. (St. Charles)***	8.35	45 mph	172	362	.75	9%	0%	1
Bloomington Creek bridge	12.91	Bloomington n. city limit	13.9	45 mph	233	270	.75	8%	0%	1
Paris s. city limit	14.95	E. 2nd South St. (Paris)	15.65	65mph	137	159	.80	15%	0%	1
E. 2nd South St. (Paris)	15.65	E. 2nd North St. (Paris)	16.25	25 mph	173	200	.85	10%	N/A	2
Southbound										
E. 2nd North St. (Paris)	16.25	E. 2nd South St. (Paris)	15.65	25 mph	208	241	.78	12%	N/A	2

Table B-2 (cont.)
Two-Lane Highways (Rural Developed Areas)
HIGHPLAN Methodology

Segment				Input Data						
From	**From M.P.**	**To**	**To M.P.**	**Posted Speed**	**2002 DDHV**	**2025 DDHV**	**PHF**	**% Heavy Vehicles**	**% No-Passing**	**Number of Lanes**
Southbound										
E. 2nd South St. (Paris)	15.65	Paris s. city limit	14.95	65mph	237	275	.86	12%	0%	1
Bloomington n. city limit	13.9	Bloomington Creek bridge	12.91	45 mph	170	197	.79	6%	0%	1
300 North St. (St. Charles)***	8.35	St. Charles s. city limit	7.0	45 mph	192	364	.75	8%	0%	1
St. Charles s. city limit	7.0	Fish Haven n. boundary	3.09	65 mph	N/A**	404	.90	9%	15%	1
Fish Haven n. boundary	3.09	Fish Haven	2.42	35 mph	160	476	.80	7%	24%	1
Fish Haven	2.42	Idaho-Utah state line	0.00	50 mph	209	514	.86	9%	52%	1

* Sources:

1. All volume-related data items except 2025 DDHV otained from traffic counts (2025 DDHV obtained from study traffic forecast).
2. All geometric data items (% no-passing zones and number of lanes) and posted speed obtained through field survey.

** Analyzed using *HCM 2000* two-lane highway methodology for 2002.
*** Segment endpoint at North Beach Rd. (m.p. 8.74) for 2025.

Note: All parameter and input data values the same for 2025 as 2002 except DDHV.

Table B-3
Urban Streets
HCM 2000 Methodology

CORRIDOR-WIDE PARAMETERS

Parameter	Value	Source
Urban street class	III	Per *HCM 2000* definition

SEGMENT DATA ITEMS

Segment				Input Data				
From	From M.P.	To	To M.P.	Length	Free-Flow Speed		Intersection Control Delay*	
					Data Value	Source	Data Values (2002/2025)	Source
Eastbound								
Washington St./ 12th St.	25.29	Washington St./ 8th St.	25.52	0.23	27.1 mph	Speed survey	7.8/7.2 s	Intersection LOS analysis for Washington St./8th St.
Washington St./ 8th St.	25.52	Washington St./ 4th St.	25.98	0.46	27.1 mph	Speed survey	68.9/19.2 s	Intersection LOS analysis for Washington St./ 4th St.
Washington St./ 4th St.	25.98	East city limit	27.17	1.19	35 mph	Posted speed	0.0/0.0 s	N/A
Westbound								
East city limit	27.17	4th St./Clay St.	26.28	0.89	35 mph	Posted speed	22.8/204.6 s	Intersection LOS analysis for 4th St./Clay St.
4th St./Clay St.	26.28	Washington St./ 4th St.	25.98	0.30	35 mph	Posted speed	0.0/17.7 s	Intersection LOS analysis for Washington St./ 4th St. (2025)
Washington St./ 4th St.	25.98	Washington St./ 8th St.	25.52	0.46	25.1 mph	Speed survey	7.6/7.1 s	Intersection LOS analysis for Washington St./8th St.
Washington St./ 8th St.	25.52	Washington St./ 12th St.	25.29	0.23	25.1 mph	Speed survey	0.0/0.0 s	N/A

* Intersection control delays calculated using *HCM 2000* LOS capacity analysis methodologies for signalized and unsignalized intersections (see Tables B-4 and B-5).

Table B-4
Signalized Intersections
HCM 2000 Methodology

CORRIDOR-WIDE PARAMETERS

Parameter	Value	Source
Lane width	12 feet	*HCM 2000* default
Arrival type	3	*HCM 2000* default
Multi-lane adj. factor	Yes	*HCM 2000* default
Saturation flow rate	1,900 vph	*HCM 2000* default
Crosswalk width	8 feet	*HCM 2000* default
Walking speed	4.0 ft./sec.	*HCM 2000* default

INTERSECTION DATA ITEMS

Input Data	Washington St./8th St.		Washington St./4th St.*	
	Data Value	Source	Data Value	Source
2002 DHV	Varies by movement	Traffic count	N/A	N/A
2025 DHV	Varies by movement	Study traffic forecast	Varies by movement	Study traffic forecast
Pedestrian volume (major/minor)	10/9	Traffic count	0/0	Traffic count
Bicycle volume (major/minor)	0/0	Traffic count	0/0	Traffic count
Phasing type (major/minor)	Permitted/permitted	Field survey	Protected/permitted	ITD signal plan
Cycle length	60 secs.	Field survey	60 secs.	ITD signal plan
Lost time	8 secs.	Field survey	12 secs.	Per signal phasing
Yellow + all-red time	4 secs.	Field survey	4 secs.	*HCM 2000* default
Heavy vehicle % (major/minor)	7/2	Traffic count	14/6	Traffic count
Grade % (major/minor)	0/0	Field survey	0/0	Field survey
On-street parking	None	Field survey	None	Field survey
Bus stops/hour	None	Field survey	None	Field survey

* Analyzed as signalized intersection for 2025 only

Note: All parameter and input data values the same for 2025 as 2002 except DHV.

Table B-5
Unsignalized Intersections
HCM 2000 Methodology

CORRIDOR-WIDE PARAMETERS

Parameter	Value	Source
Lane width	12 feet	*HCM 2000* default
Walking speed	4.0 ft./sec.	*HCM 2000* default

INTERSECTION DATA ITEMS*

Major Leg	Minor Leg	DHV	Pedestrian Volume (Major/Minor)	Median Type	Heavy Vehicle % (Major/Minor)	Grade (Major/Minor)	Flared Lane Space (vehs.)
US 89	Lake West Blvd.	Varies by movement	1/1	Undivided	13/6	0/0	0
US 89	Lakeside Dr.	Varies by movement	1/0	Undivided	8/0	0/0	0
US 89	Loveland Ln.	Varies by movement	0/0	Undivided	8/12	0/0	0
US 89	Fish Haven Canyon Rd.	Varies by movement	40/3	Undivided	7/2	0/0	0
US 89	Fish Haven Cem. Rd.	Varies by movement	0/0	Undivided	10/11	0/0	0
US 89	North Beach Rd.	Varies by movement	0/0	Undivided	8/10	0/0	0
US 89	Minnetonka Cave Rd.	Varies by movement	0/0	Undivided	8/7	0/0	0
US 89	Bloomington Canyon Rd.	Varies by movement	0/0	Undivided	8/0	0/0	0
US 89	2nd North St.(Paris)	Varies by movement	0/0	Undivided	12/6	0/0	0
US 89	Lanark Rd.	Varies by movement	0/0	Undivided	8/6	0/0	0
US 89	US 89 conn. to SH 36	Varies by movement	0/0	Undivided	7/80	0/0	0
US 89	SH 36 (north)	Varies by movement	0/0	Undivided	6/40	0/0	0
US 89	Bern Rd.	Varies by movement	0/0	Undivided	10/30	0/0	0
4th St.	Washington St.	Varies by movement	2/7	Undivided	14/6	0/0	0
4th St.	Clay St.	Varies by movement	0/0	Undivided	10/3	0/0	0

Sources:

1. All volume-related data items (DHV, pedestrian volumes, and heavy vehicle percentages) obtained from traffic counts.
2. All geometric data items (median type, grade, flared lane space) obtained through field survey.

Note: All parameter and input data values the same for 2025 as 2002 except DHV.