



Florida Department of Transportation

RON DESANTIS
GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

JARED W. PERDUE, P.E.
SECRETARY

MEMORANDUM

Date: October 3, 2023
To: Evan Agillon **EXT 2261**
From: Elias Bowne, Traffic Analyst
Subject: Financial Project No: 453559-1-52-01
 Roadway ID: 12075000
 Project Name: SR 93/I-75
 County: Lee
 Type of Work: Pavement Resurfacing
 From MP: 22.397 - 23.836

Per your request, the attached traffic data forecasts are provided for the above roadway. These estimates were taken from the average of the District 1 2045 Traffic Model and TRENDS provided by FDOT.

K = 9.0%
 D = 57.2%
 24 Hour T = 14.7%
 Design Hour T = 7.4%
 2022 AADT = 109,500
 Functional Class = Urban Prin Art Int.

The attached 18-KIP Equivalent Single Axle Loading Accumulations are based on the above information and have been prepared in accordance with the Central Offices memo of December 1, 2000, reflecting the current Equivalency Factors. We have included the 24-hour traffic counts for site(s) 120059.

The following are existing and/or new traffic monitoring stations that are within or near the project limits. Any installations on a State Facility will need to follow the Specifications and Standard Plan index 695-001:

Cosite	Type	Status	Latitude	Longitude	Owner	Contact
120059	PTMS	Active	26.64889	-81.7991	D1	(863)519-2524

Please feel free to contact Elias Bowne at extension 2524 if you have any questions.

18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS

PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS

FIN #: 453559-1-52-01

COUNTY: Lee

ROADWAYID: 12075000

PROJECT DESCRIPTION: Pavement Resurfacing

LOCATION DESCRIPTION: _____ **LOCATION #:** 1
 SR 93/I-75 (MP: 22.584 - 23.836)

GROWTH RATE FORMULA

- A: Interpolation
- B: Enter Growth Rate
- C: Enter All AADTs
- D: New Facility

Choose A, B, C, or D here: A

Linear Growth Rate X %

Compounded Growth Rate _____ %

Decaying Growth Rate _____ %

(select one)

If "A" select an interpolation function

If "B" enter rate as decimals (1%=1.01)

If "C", or "D" continue to next section

DESIGN INFORMATION

	Existing Year	Opening Year	Mid-Design Year	Design Year	AADT
	2022	2027	2037	2047	109500
					N/A
					N/A
					159400

Daily Direction Split
 (50% or 100%) 50%

Lanes in One Direction 3

T24 values

Existing to Opening Year 14.70%

Opening to Mid-Year 14.70%

Mid-Year to Design-Year 14.70%

Note: AADT values have been rounded to the nearest 100

2000 EQUIVALENCY FACTORS [u(1)]

(selected with an X)

	FLEXIBLE PAVEMENT SN = 5/THICK	RIGID PAVEMENT SN = 12/THICK
RURAL FREEWAY:	1.050 _____	1.600 _____
URBAN FREEWAY:	0.900 <u>X</u>	1.270 _____
RURAL HIGHWAY:	0.960 _____	1.350 _____
URBAN HIGHWAY:	0.890 _____	1.220 _____
OTHER (Enter Factor and X):	_____	_____

(1) Equivalency Factors are based on Updated Pavement Damage Factors Memorandum, dated December 1, 2000.

Lane Factors developed by Copes equation

I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.

Prepared by: <u>Elias Bowne</u>	Traffic Analyst	FDOT
Name <u>Elias Bowne</u>	Title	Org. Unit or Firm
Signature <u>Elias Bowne</u>	Date	10/11/2023 3:45 PM EDT
Reviewed by: <u>Brittany Nichols</u>	Model Coordinator	FDOT
Name <u>Brittany Nichols</u>	Title	Org. Unit or Firm
Signature <u>Brittany Nichols</u>	Date	10/12/2023 1:21 PM EDT

18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS - LOCATION 1

PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS

YEARS: 2022 to 2047

SECTION #: 12075000

COUNTY: Lee

FIN #: 453559-1-52-01

FLEXIBLE PAVEMENT URBAN FREEWAY 0.900

SN=5/THICK

Pavement Resurfacing

A

YEAR	AADT	ESAL (1000S)	ACCUM (1000s)	D	T	LF	EF
2022	109500	1434	0	0.5	14.70%	0.542	0.900
2023	111400	1455	0	0.5	14.70%	0.541	0.900
2024	113400	1477	0	0.5	14.70%	0.539	0.900
2025	115400	1499	0	0.5	14.70%	0.538	0.900
2026	117400	1521	0	0.5	14.70%	0.536	0.900
2027	119400	1543	1543	0.5	14.70%	0.535	0.900
2028	121400	1565	3108	0.5	14.70%	0.534	0.900
2029	123400	1586	4694	0.5	14.70%	0.532	0.900
2030	125400	1608	6302	0.5	14.70%	0.531	0.900
2031	127400	1630	7932	0.5	14.70%	0.530	0.900
2032	129400	1651	9583	0.5	14.70%	0.528	0.900
2033	131400	1673	11256	0.5	14.70%	0.527	0.900
2034	133400	1694	12950	0.5	14.70%	0.526	0.900
2035	135400	1715	14665	0.5	14.70%	0.525	0.900
2036	137400	1737	16402	0.5	14.70%	0.523	0.900
2037	139400	1758	18160	0.5	14.70%	0.522	0.900
2038	141400	1779	19939	0.5	14.70%	0.521	0.900
2039	143400	1800	21739	0.5	14.70%	0.520	0.900
2040	145400	1821	23560	0.5	14.70%	0.519	0.900
2041	147400	1842	25402	0.5	14.70%	0.518	0.900
2042	149400	1863	27265	0.5	14.70%	0.516	0.900
2043	151400	1884	29149	0.5	14.70%	0.515	0.900
2044	153400	1905	31054	0.5	14.70%	0.514	0.900
2045	155400	1926	32980	0.5	14.70%	0.513	0.900
2046	157400	1947	34927	0.5	14.70%	0.512	0.900
2047	159400	1968	36895	0.5	14.70%	0.511	0.900

Opening to Mid-Design Year ESAL Accumulation (1000s): 16617
 Opening to Design Year ESAL Accumulation (1000s): 35352

I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.

Prepared by: Elias Bowne Traffic Analyst FDOT
 Name: _____ Title: _____ Org. Unit or Firm: _____
 DocuSigned by: Elias Bowne 10/11/2023 | 3:45 PM EDT
 Signature: _____ Date: _____

Reviewed by: Brittany Nichols Model Coordinator FDOT
 Name: _____ Title: _____ Org. Unit or Firm: _____
 DocuSigned by: Brittany Nichols 10/12/2023 | 1:21 PM EDT
 Signature: _____ Date: _____

County: 12
 Station: 0059
 Description: SR 93/I 75, SOUTH OF LUCKETT ROAD
 Start Date: 03/31/2021
 Start Time: 0000

Time	Direction: N					Direction: S					Combined Total	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total		
0000	89	79	86	86	340	95	93	63	55	306	646	
0100	69	63	55	36	223	51	51	57	47	206	429	
0200	64	55	41	69	229	48	53	37	45	183	412	
0300	59	73	75	77	284	59	60	80	75	274	558	
0400	81	108	145	159	493	84	114	186	198	582	1075	
0500	199	268	350	456	1273	234	299	441	536	1510	2783	
0600	580	617	741	783	2721	657	926	985	1046	3614	6335	
0700	747	783	768	882	3180	936	1098	1126	1077	4237	7417	
0800	788	784	883	793	3248	1020	918	877	852	3667	6915	
0900	797	868	771	824	3260	785	815	868	787	3255	6515	
1000	849	948	957	941	3695	821	794	809	788	3212	6907	
1100	882	868	852	842	3444	789	766	857	773	3185	6629	
1200	881	882	899	962	3624	793	780	854	807	3234	6858	
1300	913	941	913	924	3691	761	772	767	742	3042	6733	
1400	914	922	997	957	3790	764	844	877	882	3367	7157	
1500	925	1104	1075	1057	4161	860	832	818	891	3401	7562	
1600	1065	1112	1101	1183	4461	810	863	861	861	3395	7856	
1700	1187	1221	1207	1100	4715	850	798	852	769	3269	7984	
1800	987	992	817	796	3592	642	650	647	552	2491	6083	
1900	764	612	603	578	2557	518	443	416	471	1848	4405	
2000	489	473	424	484	1870	402	394	340	343	1479	3349	
2100	416	356	324	302	1398	334	290	322	278	1224	2622	
2200	289	268	226	194	977	249	207	170	144	770	1747	
2300	193	137	154	122	606	131	115	122	97	465	1071	
24-Hour Totals:					57832						52216	110048

	Peak Volume Information					
	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	830	3341	715	4321	715	7542
P.M.	1645	4798	1415	3463	1645	8159
Daily	1645	4798	715	4321	1645	8159
Truck Percentage	12.71		12.48		12.60	

Classification Summary Database																	
Dir	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TotTrk	TotVol
N	43	34268	16171	174	2589	533	164	949	2570	264	56	44	7	0	0	7350	57832
S	108	33874	11714	168	2132	611	54	719	2661	65	62	42	5	0	1	6519	52216

County: 12
 Station: 0059
 Description: SR 93/I 75, SOUTH OF LUCKETT ROAD
 Start Date: 11/30/2022
 Start Time: 1300

Time	Direction: N					Direction: S					Combined Total	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total		
0000	105	96	100	82	383	114	67	77	76	334	717	
0100	89	75	74	56	294	64	50	59	58	231	525	
0200	58	60	71	62	251	47	59	81	70	257	508	
0300	67	75	82	110	334	55	91	112	103	361	695	
0400	98	118	146	154	516	141	181	249	271	842	1358	
0500	241	298	377	484	1400	323	432	595	724	2074	3474	
0600	604	705	795	822	2926	963	1184	1214	1206	4567	7493	
0700	806	808	782	870	3266	1223	1307	1214	1155	4899	8165	
0800	802	810	793	763	3168	1105	1092	1100	940	4237	7405	
0900	723	726	779	798	3026	965	981	972	904	3822	6848	
1000	766	767	748	796	3077	815	891	933	879	3518	6595	
1100	728	746	839	829	3142	907	893	873	868	3541	6683	
1200	864	856	850	902	3472	898	906	940	847	3591	7063	
1300	784	791	815	874	3264	806	964	970	830	3570	6834	
1400	907	927	978	1034	3846	869	863	909	915	3556	7402	
1500	1056	1079	1098	1134	4367	894	875	939	922	3630	7997	
1600	1109	1204	1179	1137	4629	966	994	1030	977	3967	8596	
1700	1140	1058	1079	1079	4356	1111	1044	1071	875	4101	8457	
1800	1065	834	819	1087	3805	879	854	741	654	3128	6933	
1900	724	568	573	485	2350	546	456	459	420	1881	4231	
2000	470	431	399	376	1676	375	314	312	267	1268	2944	
2100	382	363	255	315	1315	245	267	220	206	938	2253	
2200	291	288	210	192	981	166	164	156	135	621	1602	
2300	158	170	156	124	608	113	92	102	112	419	1027	
24-Hour Totals:					56452						59353	115805

	Peak Volume Information					
	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	745	3275	645	4950	645	8168
P.M.	1615	4660	1645	4203	1615	8772
Daily	1615	4660	630	4950	1615	8772
Truck Percentage	14.93		15.38		15.16	

Classification Summary Database																	
Dir	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TotTrk	TotVol
N	48	31374	16604	157	2905	616	242	1016	3071	306	57	48	8	0	0	8426	56452
S	62	33021	17140	179	3698	707	90	1057	3160	119	56	53	11	0	0	9130	59353

County: 12
 Station: 0059
 Description: SR 93/I 75, SOUTH OF LUCKETT ROAD
 Start Date: 06/21/2023
 Start Time: 0000

Time	Direction: N					Direction: S					Combined Total	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total		
0000	100	98	91	72	361	89	85	104	86	364	725	
0100	69	63	59	75	266	65	84	76	74	299	565	
0200	78	74	66	62	280	69	67	51	74	261	541	
0300	72	64	80	81	297	68	98	97	105	368	665	
0400	98	105	112	130	445	115	143	200	250	708	1153	
0500	186	240	313	384	1123	243	358	512	626	1739	2862	
0600	481	606	719	772	2578	802	1020	1241	1162	4225	6803	
0700	724	717	752	849	3042	1169	1271	1189	1224	4853	7895	
0800	815	760	750	754	3079	1041	983	1014	916	3954	7033	
0900	630	701	702	706	2739	835	829	880	840	3384	6123	
1000	695	683	690	708	2776	808	798	834	828	3268	6044	
1100	739	766	746	807	3058	735	820	805	898	3258	6316	
1200	735	874	813	821	3243	844	835	812	804	3295	6538	
1300	825	857	881	843	3406	784	833	798	794	3209	6615	
1400	902	849	895	941	3587	810	833	794	834	3271	6858	
1500	923	1080	1022	1126	4151	842	811	847	906	3406	7557	
1600	1143	1037	1129	1180	4489	860	874	897	864	3495	7984	
1700	1186	1056	1147	1124	4513	839	896	833	704	3272	7785	
1800	989	933	690	667	3279	718	693	580	514	2505	5784	
1900	614	522	485	528	2149	486	451	417	466	1820	3969	
2000	468	365	343	369	1545	425	314	312	265	1316	2861	
2100	345	318	280	296	1239	286	244	249	222	1001	2240	
2200	245	235	232	172	884	193	169	168	149	679	1563	
2300	149	150	137	132	568	144	131	109	92	476	1044	
24-Hour Totals:					53097						54426	107523

Peak Volume Information

	Direction: N		Direction: S		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	730	3176	700	4853	700	7895
P.M.	1645	4569	1545	3537	1630	8047
Daily	1645	4569	700	4853	1630	8047

Truck Percentage 16.48 16.39 16.43

Classification Summary Database

Dir	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TotTrk	TotVol
N	59	25859	18427	258	3472	790	190	1002	2627	322	50	32	8	0	1	8751	53097
S	129	29582	15797	193	3720	689	234	1360	2559	74	44	40	5	0	0	8918	54426