

**APPENDIX H**

**NOISE**



**Traffic Noise Model (TNM) 2.0 Input Data**

**Job Number :** 001966

**Job Name:** Springdale Northern Bypass

**Roadway Reference:** Highway 412

**Counties:** Benton & Washington

**Design Year:** 2024

**Year(s) To Be Modeled:** 2004 & 2024

**Roadway Cross-Sections:**

**2004:** 12' - 12' - 60' - 12' - 12' Y-coordinates: 100, 184

**2024:** 12' - 12' - 60' - 12' - 12' Y-coordinates: 100, 184

**Operating Speed:** 70 mph

<p align="center"><b>Table H-1</b> <b>Noise Analysis Segments</b></p>		
Noise Segment Name	Endpoints Used in Noise Analysis	Corresponding FEIS Segments
East	Highway 265 to Highway 412	Eastern portion of Segment D-E and Segment E-F
East Central	Highway 71B to Highway 265	Western portion of Segment D-E
Central East	I-540 to Highway 71B	Segment C-D
Central West	Highway 112 to I-540	Segment B-C
West	Highway 412 to Highway 112	Segment A-B

<p align="center"><b>Table H-2</b> <b>Noise Reduction Coefficient for Noise Segments</b></p>	
Noise Segment	Noise Reduction Coefficient/Corresponding Ground Type
East	0.5 / Field Grass (Rural location)
East Central	0.3 / Lawn (Between a Rural & an Urban location)
Central East	0.3 / Lawn (Between a Rural & an Urban location)
Central West	0.5 / Field Grass (Rural location)
West	0.5 / Field Grass (Rural location)

**Table H-3  
Non-toll Roadway Noise Segments Traffic Input Values**

	Noise Segment	Year	Traffic Information for Segment					TNM 2.0 Input Values				
			ADT	%Truck	DHV	MT10%	HT90%	Cars	Cars/2	MT/2	HT/2	
<b>Line 2</b>	East	2004	10,800	12	1188	14	128	1045	523	7	64	
		2024	19,600	12	2156	26	233	1897	949	13	116	
	East Central	2004	15,900	12	1749	21	189	1539	770	10	94	
		2024	28,600	12	3146	38	340	2768	1384	19	170	
	Central East	2004	19,700	12	2167	26	234	1907	953	13	117	
		2024	35,500	12	3905	47	422	3436	1718	23	211	
	Central West (includes Airport Access Road traffic)	2004	19,400	12	2134	26	230	1878	939	13	115	
		2024	37,600	12	4136	50	447	3640	1820	25	223	
	West (includes Airport Access Road traffic)	2004	17,600	12	1936	23	209	1704	852	12	105	
		2024	34,200	12	3762	45	406	3311	1655	23	203	
	<b>Line 3</b>	East	2004	9,800	12	1078	13	116	949	474	6	58
			2024	17,700	12	1947	23	210	1713	857	12	105
East Central		2004	18,000	12	1980	24	214	1742	871	12	107	
		2024	32,500	12	3575	43	386	3146	1573	21	193	
Central East		2004	22,900	12	2519	30	272	2217	1108	15	136	
		2024	40,900	12	4499	54	486	3959	1980	27	243	
Central West (includes Airport Access Road traffic)		2004	20,300	12	2233	27	241	1965	983	13	121	
		2024	39,000	12	4290	51	463	3775	1888	26	232	
West (includes Airport Access Road traffic)		2004	18,300	12	2013	24	217	1771	886	12	109	
		2024	35,500	12	3905	47	422	3436	1718	23	211	

Table H-3, Continued											
Non-toll Roadway Noise Segments Traffic Input Values											
	Noise Segment	Year	Traffic Information for Segment					TNM 2.0 Input Values			
			ADT	%Truck	DHV	MT10%	HT90%	Cars	Cars/2	MT/2	HT/2
<b>Line 4</b>	East	2004	10,600	12	1166	14	126	1026	513	7	63
		2024	19,200	12	2112	25	228	1859	929	13	114
	East Central	2004	18,300	12	2013	24	217	1771	886	12	109
		2024	33,100	12	3641	44	393	3204	1602	22	197
	Central East	2004	20,400	12	2244	27	242	1975	987	13	121
		2024	36,900	12	4059	49	438	3572	1786	24	219
	Central West (includes Airport Access Road traffic)	2004	19,000	12	2090	25	226	1839	920	13	113
		2024	39,900	12	4389	53	474	3862	1931	26	237
West (includes Airport Access Road traffic))	2004	16,100	12	1771	21	191	1558	779	11	96	
	2024	31,600	12	3476	42	375	3059	1529	21	188	
<b>Line 5</b>	East	2004	10,800	12	1188	14	128	1045	523	7	64
		2024	19,600	12	2156	26	233	1897	949	13	116
	East Central	2004	16,100	12	1771	21	191	1558	779	11	96
		2024	29,000	12	3190	38	345	2807	1404	19	172
	Central East	2004	20,800	12	2288	27	247	2013	1007	14	124
		2024	37,600	12	4136	50	447	3640	1820	25	223
	Central West (includes Airport Access Road traffic)	2004	18,400	12	2024	24	219	1781	891	12	109
		2024	36,900	12	4059	49	438	3572	1786	24	219
West (includes Airport Access Road traffic)	2004	17,300	12	1903	23	206	1675	837	11	103	
	2024	33,700	12	3707	44	400	3262	1631	22	200	

**Table H-4  
Toll Roadway Noise Segments Traffic Input Values**

	Noise Segment	Year	Traffic Information for Segment					TNM 2.0 Input Values				
			ADT	%Truck	DHV	MT10%	HT90%	Cars	Cars/2	MT/2	HT/2	
<b>Line 2</b>	East	2004	7,200	12	792	10	86	697	348	5	43	
		2024	13,100	12	1441	17	156	1268	634	9	78	
	East Central	2004	10,600	12	1166	14	126	1026	513	7	63	
		2024	19,200	12	2112	25	228	1859	929	13	114	
	Central East	2004	13,200	12	1452	17	157	1278	639	9	78	
		2024	23,800	12	2618	31	283	2304	1152	16	141	
	Central West (includes Airport Access Road traffic)	2004	14,500	12	1595	19	172	1404	702	10	86	
		2024	28,800	12	3168	38	342	2788	1394	19	171	
	West (includes Airport Access Road traffic)	2004	13,200	12	1452	17	157	1278	639	9	78	
		2024	26,300	12	2893	35	312	2546	1273	17	156	
	<b>Line 3</b>	East	2004	6,600	12	726	9	78	639	319	4	39
			2024	11,800	12	1298	16	140	1142	571	8	70
East Central		2004	12,100	12	1331	16	144	1171	586	8	72	
		2024	21,800	12	2398	29	259	2110	1055	14	129	
Central East		2004	15,300	12	1683	20	182	1481	741	10	91	
		2024	27,400	12	3014	36	326	2652	1326	18	163	
Central West (includes Airport Access Road traffic)		2004	15,100	12	1661	20	179	1462	731	10	90	
		2024	29,900	12	3289	39	355	2894	1447	20	178	
West (includes Airport Access Road traffic)		2004	13,700	12	1507	18	163	1326	663	9	81	
		2024	27,200	12	2992	36	323	2633	1316	18	162	

Table H-4, Continued											
Toll Roadway Noise Segments Traffic Input Values											
	Noise Segment	Year	Traffic Information for Segment						TNM 2.0 Input Values		
			ADT	%Truck	DHV	MT10%	HT90%	Cars	Cars/2	MT/2	HT/2
<b>Line 4</b>	East	2004	7,100	12	781	9	84	687	344	5	42
		2024	12,900	12	1419	17	153	1249	624	9	77
	East Central	2004	12,300	12	1353	16	146	1191	595	8	73
		2024	22,100	12	2431	29	263	2139	1070	15	131
	Central East	2004	13,700	12	1507	18	163	1326	663	9	81
		2024	24,700	12	2717	33	293	2391	1195	16	147
	Central West (includes Airport Access Road traffic)	2004	14,200	12	1562	19	169	1375	687	9	84
		2024	30,300	12	3333	40	360	2933	1467	20	180
West (includes Airport Access Road traffic)	2004	12,300	12	1353	16	146	1191	595	8	73	
	2024	24,700	12	2717	33	293	2391	1195	16	147	
<b>Line 5</b>	East	2004	7,200	12	792	10	86	697	348	5	43
		2024	13,100	12	1441	17	156	1268	634	9	78
	East Central	2004	10,800	12	1188	14	128	1045	523	7	64
		2024	19,500	12	2145	26	232	1888	944	13	116
	Central East	2004	13,900	12	1529	18	165	1346	673	9	83
		2024	25,200	12	2772	33	299	2439	1220	17	150
	Central West (includes Airport Access Road traffic)	2004	14,200	12	1562	19	169	1375	687	9	84
		2024	28,300	12	3113	37	336	2739	1370	19	168
West (includes Airport Access Road traffic)	2004	13,000	12	1430	17	154	1258	629	9	77	
	2024	26,000	12	2860	34	309	2517	1258	17	154	

<p align="center"><b>Table H-5</b> <b>Non-toll Ambient Noise Contour Data</b></p>							
	Noise Segment	Year	Centerline Reference for the 66 dBA contour line (feet)	Existing Ambient Noise Level (dBA)	10 dBA or Greater Increase Value (dBA)	Centerline Reference for the 10dBA or Greater Increase Contour Line (feet)	
<b>Line 2</b>	East	2004	209	52	62	318	
		2024	273	52	62	423	
	East Central	2004	245	56	66	245	
		2024	325	56	66	325	
	Central East	2004	270	56	66	270	
		2024	358	56	66	358	
	Central West	2004	273	52	62	423	
		2024	369	52	62	564	
	West	2004	260	52	62	400	
		2024	354	52	62	540	
	<b>Line 3</b>	East	2004	200	52	62	304
			2024	260	52	62	400
East Central		2004	260	56	66	260	
		2024	343	56	66	343	
Central East		2004	292	56	66	292	
		2024	383	56	66	383	
Central West		2004	279	52	62	435	
		2024	377	52	62	571	
West		2004	264	52	62	404	
		2024	362	52	62	550	



<p align="center"><b>Table H-5, Continued</b> <b>Non-toll Ambient Noise Contour Data</b></p>							
	Noise Segment	Year	Centerline Reference for the 66 dBA Contour Line (feet)	Existing Ambient Noise Level (dBA)	10 dBA or Greater Increase Value (dBA)	Centerline Reference for the 10dBA or Greater Increase Contour Line (feet)	
<b>Line 4</b>	East	2004	209	52	62	318	
		2024	271	52	62	417	
	East Central	2004	260	56	66	260	
		2024	347	56	66	347	
	Central East	2004	276	56	66	276	
		2024	366	56	66	366	
	Central West	2004	270	52	62	417	
		2024	381	52	62	576	
	West	2004	250	52	62	385	
		2024	343	52	62	527	
	<b>Line 5</b>	East	2004	209	52	62	318
			2024	273	52	62	423
		East Central	2004	247	56	66	247
			2024	325	56	66	325
Central East		2004	279	56	66	279	
		2024	367	56	66	367	
Central West		2004	264	52	62	404	
		2024	369	52	62	559	
West		2004	257	52	62	396	
		2024	354	52	62	539	

<p align="center"><b>Table H-6</b> <b>Toll Ambient Noise Contour Data</b></p>							
	Noise Segment	Year	Centerline Reference for the 66 dBA Contour Line (feet)	Existing Ambient Noise Level (dBA)	10 dBA or Greater Increase Value (dBA)	Centerline Reference for the 10dBA or Greater Increase Contour Line (feet)	
<b>Line 2</b>	East	2004	173	52	62	263	
		2024	229	52	62	350	
	East Central	2004	204	56	66	204	
		2024	267	56	66	267	
	Central East	2004	225	56	66	225	
		2024	298	56	66	298	
	Central West	2004	238	52	62	366	
		2024	329	52	62	509	
	West	2004	229	52	62	350	
		2024	315	52	62	490	
	<b>Line 3</b>	East	2004	164	52	62	252
			2024	218	52	62	333
		East Central	2004	216	56	66	216
			2024	285	56	66	285
Central East		2004	240	56	66	240	
		2024	318	56	66	318	
Central West		2004	243	52	62	373	
		2024	336	52	62	514	
West		2004	234	52	62	354	
		2024	322	52	62	495	

<p align="center"><b>Table H-6, Continued</b> <b>Toll Ambient Noise Contour Data</b></p>							
	Noise Segment	Year	Centerline Reference for the 66 dBA Contour Line (feet)	Existing Ambient Noise Level (dBA)	10 dBA or Greater Increase Value (dBA)	Centerline Reference for the 10dBA or Greater Increase Contour Line (feet)	
<b>Line 4</b>	East	2004	171	52	62	260	
		2024	227	52	62	347	
	East Central	2004	218	56	66	218	
		2024	285	56	66	285	
	Central East	2004	229	56	66	229	
		2024	301	56	66	301	
	Central West	2004	236	52	62	362	
		2024	336	52	62	518	
	West	2004	222	52	62	340	
		2024	307	52	62	477	
	<b>Line 5</b>	East	2004	173	52	62	263
			2024	229	52	62	350
East Central		2004	204	56	66	204	
		2024	270	56	66	270	
Central East		2004	230	56	66	230	
		2024	304	56	66	304	
Central West		2004	236	52	62	362	
		2024	325	52	62	504	
West		2004	227	52	62	347	
		2024	314	52	62	486	

**Re-analysis of SDEIS Noise Tables Relating to Segment A-B Adjustments for FEIS  
(Refer to Section 4.1.3.5)**

<b>Table H-7</b>													
<b>Estimated Noise Receptors</b>													
<b>That Approach the Noise Abatement Criteria (66 dBA)</b>													
<b>Line</b>	<b>Year</b>	<b>Preferred Segment A-B</b>		<b>Segment B-C</b>		<b>Segment C-D</b>		<b>Segment D-E</b>		<b>Preferred Segment E-F</b>		<b>Totals</b>	
		<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>
2	YR 2004	3	2	1	1	12	7	22	3	0	0	38	13
	YR 2024	7	5	3	2	20	16	30	24	0	0	60	47
3	YR 2004	3	2	3	3	6	5	0	0	0	0	12	10
	YR 2024	7	5	4	3	18	9	2	2	0	0	31	19
4	YR 2004	3	3	1	1	9	4	0	0	0	0	13	8
	YR 2024	7	6	3	2	32	13	2	2	0	0	44	23
5	YR 2004	3	2	1	1	0	0	0	0	0	0	4	3
	YR 2024	7	6	6	6	0	0	2	0	0	0	15	12

<b>Table H-8</b>													
<b>Estimated Noise Receptors With a 10 dBA or</b>													
<b>Greater Increase Above the Estimated Existing Levels</b>													
<b>Line</b>	<b>Year</b>	<b>Preferred Segment A-B</b>		<b>Segment B-C</b>		<b>Segment C-D</b>		<b>Segment D-E</b>		<b>Preferred Segment E-F</b>		<b>Totals</b>	
		<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>	<b>Non-toll</b>	<b>Toll</b>
2	YR 2004	9	6	3	3	12	7	22	4	1	0	47	20
	YR 2024	21	17	5	5	20	16	30	27	3	1	79	66
3	YR 2004	9	6	4	4	6	5	0	0	0	0	19	15
	YR 2024	23	18	9	7	18	9	7	3	3	1	60	38
4	YR 2004	7	7	3	2	9	4	1	0	0	0	20	13
	YR 2024	20	18	6	4	32	13	7	4	3	1	68	40
5	YR 2004	8	7	7	6	0	0	1	0	0	0	16	13
	YR 2024	23	18	12	10	1	0	8	2	3	1	47	31