

Template 3: Transportation System User Benefits per Passenger Mile

Line	Variable	Value	Source/Calculation
1	Weekday Transportation System User Benefits (User Expenditure Savings in Hours) New Starts baseline vs. build alternative	14,518	Source: Output from SUMMIT software for change in User Expenditures between the New Starts baseline and build alternatives.
2	Annualization Factor	304	Source: Value that converts daily estimates to annual estimates.
3	Total Annual User Benefits (in hours)	4,413,472	Calculation: Multiply change in weekday User Expenditures in Hours (Line 1) by annualization factor (Line 2).
4	Total Annual User Benefits (in minutes)	264,808,320	Calculation: Multiply Total Annual User Benefits (Line 3) by 60
5	Annual Passenger Miles (weekday passenger miles on the New Start investment multiplied by the factor used in line 2)	94,044,224	Source: Forecast Project Passenger Miles from Regional Travel Forecasting Model
6	Total Transportation System User Benefits per Passenger Mile (in minutes)	2.82	Calculation: Divide Total Annual Transportation System User Benefits (Line 4) by Annual Passenger Miles (Line 5)

Report S-1
 Person-Trips in the Baseline Alternative
 All Transit-Access Markets
 All Trip Purposes

Production District	Attraction District																										Total
District	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
1 N Everett	101991	81612	27609	63432	1528	33	130	434	0	45	75	0	604	0	0	0	0	0	314	0	0	0	0	0	0	0	277807
2 S Everett	28989	167522	26600	65801	1873	1048	5427	261	0	185	1162	15	41	0	1868	0	2646	459	164	390	711	1289	0	0	0	0	306451
3 Lynnwood	5791	12345	99143	38409	4704	9937	9475	14239	495	1980	688	34	62	58	937	0	573	3824	429	1794	7	0	0	0	0	0	204924
4 North Crk	31804	27945	25069	83011	1544	0	0	4835	41	114	9052	157	0	0	0	0	0	813	234	696	403	0	0	0	0	0	185718
5 Shorelin	2405	284	5331	130	18389	2128	14303	2886	7236	544	522	188	29	5	0	0	429	585	3246	3488	237	70	0	0	0	0	62435
6 Ballard	1186	17	5483	714	2861	37418	24991	13450	18188	4136	7505	1255	1254	1705	2651	882	1414	7165	491	2368	766	136	2697	0	0	60	138793
7 N Seattle	2011	149	7084	3057	9014	20923	45964	13816	6872	2209	5873	4801	1552	107	156	86	35	7466	238	391	1136	139	0	0	0	0	133079
8 University	952	2730	2994	1009	6733	10959	19887	22899	4840	8357	7830	5249	4838	3158	6570	1996	4406	7205	730	4108	1798	1315	1314	803	15523	1222	149425
9 Queen Anne	115	66	960	1077	2883	4695	10185	7001	23978	16671	2710	829	9091	1774	3842	159	2028	482	1101	210	83	1964	1497	0	123	211	93735
10 Captl Hill	169	780	6663	4837	2675	14874	10921	9396	14993	30040	14022	7927	13913	1183	8497	6696	2421	1738	420	7414	2618	12005	890	29	3642	223	178986
11 SeattleCBD	5478	1288	8479	6397	6246	14177	14126	8680	13765	29836	57807	16269	25536	7911	10030	5235	6824	6829	1760	7939	6267	3771	3393	709	5000	2483	276235
12 W Seattle	43	2	315	0	526	3202	2092	826	1443	2471	3684	37913	10850	4233	8237	447	6692	3	325	1019	67	0	0	0	0	0	84390
13 Rainier	911	1252	1936	1388	673	8062	2032	3598	5900	9032	6585	9373	20536	15835	9519	2030	5090	1327	364	1417	743	484	4374	0	47	280	112788
14 Sea Tac	689	118	0	54	7367	8190	1585	10733	18448	13592	7454	8185	7977	59258	19033	15685	12415	557	85	477	2468	226	3082	0	0	8317	205995
15 Renton	0	0	47650	1081	352	6083	6606	7263	5352	4379	118626	42814	16908	27403	188560	28249	92755	10363	4067	5084	6947	5216	17483	67	20927	1274	665509
16 FederalWay	0	0	711	0	0	358	27	1454	71	928	450	317	1635	4739	13644	29981	4438	952	0	442	274	0	12231	13693	6097	10272	102714
17 Kent	0	0	0	0	5816	1846	219	13043	1008	5171	2715	2134	2398	81984	69623	11217	126320	17	213	1478	706	351	2373	0	0	0	328632
18 Kirkland	689	249	180	2259	2115	9457	1414	6266	1158	1890	1603	9	491	332	489	0	99	18331	7465	12164	10179	331	0	0	0	0	77170
19 Redmond	209	1221	9876	3624	91	1500	3976	1776	9110	2174	2574	1946	1966	159	1301	0	714	12874	11760	2787	9111	599	0	0	0	0	79348
20 W Bellevue	1086	1298	12366	4176	1976	2304	969	4643	3556	4440	4018	254	2206	402	2280	1154	1868	9586	6590	16045	14829	7542	28431	0	658	142	132819
21 Bellevue	0	221	1244	2514	1502	1576	3125	4172	699	2101	2046	860	5841	6468	23007	1913	328	11294	11900	16150	21465	2815	0	0	0	0	121241
22 Issaquah	2368	0	0	0	0	256	162	0	2092	11958	342	882	6093	0	188	0	0	1965	576	274	1433	4742	0	0	0	0	33331
23 N Tacoma	0	0	0	0	0	0	27	17227	0	0	23578	0	3053	26985	0	11607	1810	0	0	0	0	0	177260	66503	54171	84354	466575
24 S Tacoma	0	0	0	0	0	0	0	0	1739	0	4023	0	0	0	0	7132	768	0	0	0	0	0	61594	111789	57286	19782	264113
25 Lakewood	0	0	0	0	0	0	0	304	0	0	21612	0	0	4515	0	1052	349	0	0	0	0	1138	0	0	0	0	224834
26 Puyallup	0	0	0	0	291	0	2325	0	497	6990	0	0	357	0	3236	1507	0	0	0	868	0	0	26291	7020	15748	106636	171766
Total	186886	299099	289693	282970	78868	159317	177643	140984	152750	313546	141411	136874	248571	128757	370432	275929	103835	52158	87317	83386	42995	376262	246050	278287	253266	5078813	

Source: Mode-choice application (Seattle)

Report S-3
Transit Person-Trips in the Baseline Alternative
All Transit-Access Markets
All Trip Purposes

Production District	Attraction District																										Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
1 N Everett	4709	1741	257	716	10	5	19	90	0	13	42	0	8	0	0	0	0	0	0	32	0	0	0	0	0	0	7642
2 S Everett	4702	1750	528	1305	20	23	110	22	0	23	7	2	4	0	49	0	118	1	0	2	8	7	0	0	0	0	8681
3 Lynnwood	767	421	2032	804	85	162	132	500	10	104	94	14	15	1	30	0	10	30	2	14	0	0	0	0	0	5227	
4 North Crk	328	149	313	564	33	0	0	77	16	4	46	4	0	0	0	0	0	22	3	23	11	0	0	0	0	1593	
5 Shorelin	34	44	78	3	114	188	288	197	38	77	223	28	4	0	0	0	9	36	19	9	9	3	0	0	0	1401	
6 Ballard	235	4	80	66	116	1564	802	1045	1118	724	1644	178	223	71	266	80	66	183	44	235	51	47	271	0	0	9133	
7 N Seattle	77	13	163	109	395	892	1237	1103	565	283	1513	130	242	9	5	12	4	113	3	15	13	6	0	0	0	6902	
8 University	346	696	847	176	979	1992	3182	2363	685	1987	2197	631	483	366	557	547	568	1672	196	1106	549	383	128	57	1084	305	24082
9 Queen Anne	30	22	129	58	214	543	736	1015	1273	2936	926	142	1836	73	394	60	273	57	134	29	10	75	239	0	10	45	11259
10 Captl Hill	75	137	1078	845	440	1934	1108	1099	1646	3076	3448	848	2044	116	634	1253	171	198	96	783	182	670	30	2	337	101	22351
11 SeattleCBD	3036	504	3905	3188	2190	5338	4982	2414	4205	8610	13819	4314	5750	1639	3338	1996	2160	2272	804	2161	1799	1301	1622	431	1548	1257	84583
12 W Seattle	1	1	18	0	54	485	417	77	117	445	858	1126	683	132	175	12	83	0	4	106	6	0	0	0	0	0	4800
13 Rainier	202	132	396	207	81	811	164	478	626	1310	2587	866	1843	657	543	400	409	179	42	76	91	57	202	0	6	29	12394
14 Sea Tac	9	7	0	1	42	110	125	64	119	570	589	379	622	1346	611	422	415	14	4	6	17	23	55	0	0	72	5622
15 Renton	0	0	561	107	52	265	82	56	216	536	1606	532	538	694	2759	479	2356	1161	161	320	304	245	412	5	172	10	13629
16 FederalWay	0	0	20	0	0	6	1	13	5	34	172	6	43	163	94	287	48	13	0	28	1	0	197	165	145	232	1673
17 Kent	0	0	0	0	37	21	7	112	25	165	240	81	95	1041	721	62	1097	0	5	14	24	8	34	0	0	0	3789
18 Kirkland	8	2	4	7	23	145	72	349	141	180	276	2	19	5	9	0	3	198	164	102	176	10	0	0	0	0	1895
19 Redmond	4	39	175	194	2	109	93	140	182	344	152	117	146	8	51	0	34	166	108	87	234	9	0	0	0	0	2394
20 W Bellevue	34	479	1554	651	176	267	114	645	110	395	457	29	258	19	154	57	70	379	305	252	432	238	478	0	36	4	7593
21 Bellevue	0	13	45	66	53	158	160	224	78	280	478	82	284	73	447	36	17	276	198	286	362	71	0	0	0	0	3687
22 Issaquah	466	0	0	0	0	45	9	0	50	440	208	29	312	0	5	0	0	13	6	6	38	98	0	0	0	0	1725
23 N Tacoma	0	0	0	0	0	0	0	52	0	0	111	0	19	4448	0	89	22	0	0	0	0	0	4188	2161	974	792	12856
24 S Tacoma	0	0	0	0	0	0	0	0	0	5	0	8	0	0	0	42	39	0	0	0	0	0	1184	1625	509	149	3561
25 Lakewood	0	0	0	0	0	0	0	1	0	0	147	0	0	88	0	6	17	0	0	0	0	0	946	1127	1051	180	3583
26 Puyallup	0	0	0	0	0	7	0	4	0	4	35	0	0	6	0	64	38	0	0	7	0	0	879	301	214	800	2359
Total	15063	6154	12183	9067	5116	15070	13840	12140	11230	22540	31883	9540	15471	10955	5904	8027	6983	2298	5699	4337	3251	10865	5874	6086	3996		264414

Source: Mode-choice application (Seattle)

Report S-4
Change in Transit Person-Trips: Build minus Baseline
All Transit-Access Markets
All Trip Purposes

Production District	Attraction District																										Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
1 N Everett	0	0	0	0	0	0	1	2	0	1	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2 S Everett	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3 Lynnwood	0	0	0	0	0	1	5	4	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	12
4 North Crk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Shorelin	0	0	0	0	0	4	12	12	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33
6 Ballard	1	0	0	2	1	21	143	59	42	36	34	0	5	5	2	1	2	8	0	0	0	1	0	2	0	0	365
7 N Seattle	2	0	0	1	13	85	57	65	38	47	137	49	63	2	4	1	0	4	0	0	3	0	0	0	0	0	571
8 University	89	30	86	28	10	98	200	93	119	408	259	297	301	274	264	217	346	-1	-2	56	40	104	118	17	639	127	4217
9 Queen Anne	0	0	0	0	0	20	32	98	11	14	1	-4	73	2	4	-1	-2	-1	0	0	0	1	-1	0	0	0	247
10 Captl Hill	2	8	11	5	1	87	189	228	31	8	116	66	492	19	43	-34	15	14	3	28	10	0	2	2	9	2	1357
11 SeattleCBD	0	0	-1	1	9	22	111	172	12	345	-1	-1	115	41	16	6	1	-149	-19	-2	-5	-4	1	0	-1	0	669
12 W Seattle	1	0	0	0	0	5	6	25	0	15	0	0	10	0	0	1	0	0	0	0	0	0	0	0	0	0	63
13 Rainier	1	3	5	3	2	16	10	149	14	236	41	10	34	8	5	3	1	-17	-2	0	0	0	3	0	0	0	525
14 Sea Tac	0	0	0	0	3	10	14	16	10	126	53	10	24	0	0	0	0	3	0	0	2	0	0	0	0	0	271
15 Renton	0	0	0	0	0	7	14	9	4	60	2	2	8	1	0	-1	0	0	0	0	-2	0	0	0	0	0	104
16 FederalWay	0	0	1	0	0	2	0	7	0	19	8	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	42
17 Kent	0	0	0	0	0	0	1	2	0	5	2	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	12
18 Kirkland	0	0	0	0	-1	16	-11	-2	20	-8	0	1	1	0	0	0	0	0	0	-1	0	0	0	0	0	0	15
19 Redmond	0	0	-1	0	0	4	3	4	1	20	-2	0	11	3	-1	0	2	-1	0	0	0	0	0	0	0	0	43
20 W Bellevue	0	0	0	0	0	3	21	-7	1	62	1	0	5	1	0	0	0	-2	0	0	0	0	0	0	0	0	85
21 Bellevue	0	0	0	0	0	4	3	27	0	19	0	0	6	2	1	2	0	-1	0	0	0	0	0	0	0	0	63
22 Issaquah	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2
23 N Tacoma	0	0	0	0	0	0	0	10	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	11
24 S Tacoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25 Lakewood	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1
26 Puyallup	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Total	96	41	101	40	39	389	838	967	282	1446	641	430	1154	359	340	195	365	-143	-20	83	49	101	125	19	647	129	8713

Source: Mode-choice application (Seattle)

Report S-5
User Benefits (hours) for the Build Alternative
Total
All Transit-Access Markets
All Trip Purposes

Production District	Attraction District																										Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	
1 N Everett	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2 S Everett	0	0	-1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3 Lynnwood	0	0	-1	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
4 North Crk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 Shorelin	0	0	0	0	0	3	8	7	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6 Ballard	0	0	1	1	1	16	111	41	29	31	32	1	5	4	2	1	1	7	0	0	1	0	2	0	0	0	22
7 N Seattle	1	0	0	1	8	62	42	50	29	40	134	30	49	0	3	1	0	3	0	0	2	0	0	0	0	0	287
8 University	106	24	110	21	7	76	146	67	86	395	327	218	228	197	203	226	259	0	-2	45	35	91	78	10	411	141	453
9 Queen Anne	0	0	0	0	0	14	24	84	8	11	1	-3	57	1	3	0	-2	-1	0	0	0	0	10	0	0	0	3507
10 Captl Hill	4	6	8	4	0	69	140	188	24	7	137	53	410	14	30	-30	9	12	3	19	5	-1	1	1	6	-1	196
11 SeattleCBD	-1	0	-1	0	6	24	123	210	11	383	-3	-1	106	34	16	5	1	-159	-21	-2	-4	-4	1	1	0	2	1121
12 W Seattle	0	0	0	0	0	4	4	16	0	12	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	-1	723
13 Rainier	1	2	3	2	1	14	7	114	12	200	60	7	25	5	3	2	1	-12	-1	0	0	0	2	0	0	0	44
14 Sea Tac	0	0	0	0	3	6	11	12	9	81	34	7	18	0	0	0	0	2	0	0	2	0	0	0	0	0	447
15 Renton	0	0	0	0	0	5	8	7	3	42	1	1	6	0	0	0	0	0	0	0	-1	0	0	0	0	0	184
16 FederalWay	0	0	1	0	0	1	0	4	0	11	8	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	72
17 Kent	0	0	0	0	0	1	1	2	0	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
18 Kirkland	0	0	0	0	0	0	10	-6	-1	13	-7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
19 Redmond	0	0	0	0	0	2	2	3	1	14	-1	0	7	2	-1	0	1	-1	0	0	0	0	0	0	0	0	9
20 W Bellevue	0	0	0	0	0	2	14	-6	1	47	1	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	29
21 Bellevue	0	0	0	0	0	1	3	16	0	15	0	0	4	2	1	1	0	-1	0	0	0	0	0	0	0	0	64
22 Issaquah	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41
23 N Tacoma	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
24 S Tacoma	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
25 Lakewood	0	0	0	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 Puyallup	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	112	32	121	29	27	301	657	823	212	1311	725	315	931	259	261	205	269	-151	-22	62	40	88	84	11	417	142	7259

Source: Mode-choice application (Seattle)

Template 9: Cost Effectiveness - Incremental Cost per Hour in Transportation System User Benefits in the Forecast Year

		Column A	Column B	Column C	Column D	Column E	
		Alternative					
Line	Variable	New Starts Baseline	New Starts Build	Change	Annual Factor	Annual Total	Source/Calculation
1	Annualized Capital Cost (Constant 2005 dollars)	\$ 117,361,000	\$ 202,178,000	\$ 84,817,000			Source: SSC Worksheet for the Build and Baseline Alternatives
2	Total Systemwide Annual Operating and Maintenance Cost (Constant 2005 dollars)	\$ 659,560,000	\$ 663,840,000	\$ 4,280,000			Source: System-wide operating and maintenance cost estimates for the New Starts baseline and build alternatives (attach documentation).
3	Total Annualized Cost in Forecast Year (Constant 2005 dollars)	\$ 776,921,000	\$ 866,018,000	\$ 89,097,000			Calculation Columns A and B: Sum of annualized capital costs (Line 1) and annual O&M costs (Line 2). Calculation Column C: Column B value minus Column A value.
4	Weekday User Benefits (expenditure savings in hours)			14,518	304	4,413,472	Source: Weekday user expenditure savings from SUMMIT software. Multiplying the weekday estimate (Column C) by the Annual factor (Column D) produces the annual estimate (Column E).
5	User Benefits from Off-Model Trips (University of Washington Husky Stadium)			4,891	7	34,237	Source: If desired, calculate off-model user benefits. Annual factor is based on number of events for this special trip generator. Attach documentation. Multiplying the weekday estimate (Column C) by the Annual factor (Column D) produces the annual estimate (Column E).
6	User Benefits from Off-Model Trips (Seattle Seahawks - Qwest Field)			355	8	2,840	Source: If desired, calculate off-model user benefits. Annual factor is based on number of events for this special trip generator. Attach documentation. Multiplying the weekday estimate (Column C) by the Annual factor (Column D) produces the annual estimate (Column E).
7	User Benefits from Off-Model Trips (Seattle Mariners Safeco Field)			252	81	20,412	Source: If desired, calculate off-model user benefits. Annual factor is based on number of events for this special trip generator. Attach documentation. Multiplying the weekday estimate (Column C) by the Annual factor (Column D) produces the annual estimate (Column E).
8	Incremental User Benefits (hours)					4,470,961	Calculation: Sum annual user benefit estimates (sum Lines 4 thru 7 Column E)
9	Cost-Effectiveness - Incremental Cost (\$) / User Benefits (hours)					\$ 19.93	Calculation: Divide Incremental Annualized Cost (Line 3, Column C) by Incremental User Benefits (Line 8, Column E) for the New Starts build vs. New Starts baseline alternative.

Template 10: Cost Effectiveness - Incremental Cost per Incremental Passenger

Line	Factor	Alternative		New Start vs. Baseline	Source/Calculation
		Baseline	New Start		
1	Total Annual Ridership in Linked Trips (forecast year)	160,782,986	166,072,920		Source: Regional travel forecasting model (attach documentation of factors to annualize daily ridership, if applicable)
2	Incremental Annualized Cost (constant 2005 millions of dollars)			\$89,097,000	Source: Line 3 from Template 9
3	Incremental Annual Ridership			5,289,934	Calculation: Subtract Total Annual Ridership (Line 1) for the New Starts baseline from New Starts build alternative
4	Cost-Effectiveness (Incremental Cost per New Rider)			\$ 16.84	Calculation: Divide Incremental Annual Cost (Line 2) by Incremental Annual Ridership (Line 3)