



Flooding Resilience Plan for Bus Operations

Appendix E: Pace Reroute Impact Analysis

Prepared for the Regional Transportation Authority
of Northeast Illinois



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Quality Management

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Pace Travel Time Impacts Worksheet

Routes are characterized by their service pattern. Existing conditions represent normal operating patterns, while reroute represents the operating pattern when inclement weather requires adjustments to the route alignment.

Estimates of impacts to operating costs are calculated using each route’s cost per-hour metric. As with the changes in travel times vary substantially in both positive and negative directions, changes in trip cost likewise show as positive and negative, with increased costs projected to be incurred in some situations, and savings in other situations. These cost projections are presented as Base costs, along with other scenarios accounting for additional Low, Moderate and High travel delay factors which would increase costs.

Pace Ridership Impacts Worksheet

The *Pace Ridership Impacts* worksheet provides a summary of 2016 ridership data and impact analysis.

The tables summarize the impact analysis of reroutes on the Scenario E routes, including estimates of changes in stops serviced based on the reroute alignment, associated changes in ridership changes in travel time, and associated operating costs. The estimates presented assume full implementation of reroutes as documented, including situations where a route may have multiple diversions.

Metric	Description
Travel Time	Calculated using the route network on Google for a one-way trip, which is based on Pace published schedules. Reroutes were calculated using the same bus route on Google, but modifying the route alignment to reflect adjustments to avoid areas of flooding.
Travel Time (Time Factor)	Represents the trip time with the travel time factor added to the existing time.
Hours	Represents the one-way trip time in total hours.
Congestion	One of the three factors which compose the travel time factor. The factor can be adjusted from low, moderate, or high. Select a factor impact through the drop down arrow, or type the degree of factor impact.
Storm Severity	Same as above.
Operating Delay	Same as above. This factor represents the ability for Pace dispatch or the Pace bus operator to respond to the storm incident.
Factor AVG	Represents the average score of the three factors
Time Factor	The percentage which is added to travel time and cost per trip to represent estimates of how the storm incident could impact travel time and operating costs.
Cost per hour	For existing routes, provided by Pace in the Cost and Operating Stats excel. Costs per hour for reroutes were assumed to be the same as the existing route.
Cost per trip (Base)	For existing routes and reroutes, calculated by multiplying the cost per hour by the travel time (one-trip). This cost does not include any time factor multiplier and assumes route time using Google – a change in travel time due strictly to the change in route alignment.
Cost per trip (Low)	Calculated by multiplying the cost per hour by the travel time (one-trip) and then multiplying by the “Low” time factor (5 percent).
Cost per trip (Mod)	Calculated by multiplying the cost per hour by the travel time (one-trip) and then multiplying by the “Moderate” time factor (15 percent).
Cost per trip (High)	Calculated by multiplying the cost per hour by the travel time (one-trip) and then multiplying by the “High” time factor (30 percent).
Cost Change per Trip (Base)	The change in cost per trip going into reroute using base travel time with no time factor multiplier.
Cost Change per Trip (Low)	The change in cost per trip going into reroute using the base travel time incremented by 5 percent.
Cost Change per Trip (Mod)	The change in cost per trip going into reroute using the base travel time incremented by 15 percent.
Cost Change per Trip (High)	The change in cost per trip going into reroute using the base travel time incremented by 30 percent.
Average Missed Passengers per Trip	The estimated average missed passengers due to the reroute pattern. This number represents the average daily ridership for the week prior to one of the nine storm incidents. Although all passengers may not be missed, this data provides a conservative estimate of the potential number of passengers missed.
Segment Data	Consists of three columns for each reroute segment of the existing route. <i>Total Ridership</i> represents the total number of boardings for the segment, and the <i>Non Incident Days</i> column provides the total number of regular service days surveyed in the data. The <i>Average missed</i> column provides an average daily ridership missed for the segment.
Custom Travel Time Adjustments	User selects “Low”, “Moderate” or “High” additional Travel Time impact values in “Congestion”, “Storm Severity” and “Operating Delay” categories to calculate a customized adjusted reroute time.

Metric	Description
Average Daily Ridership	Sourced from Pace data in the Costs and Operating Stats spreadsheet. The average daily ridership number for reroutes was calculated by subtracting the estimated impacted (potentially missed) ridership from the existing route’s average daily ridership.
Ridership Change	Represents the change in ridership between a normal operating day and ridership on a day operating around flooded areas (with potentially lost or diverted customers).
Impacted Ridership	Four columns representing boardings for total, weekday, Saturday, and Sunday.
# Flooding Incidents	Represent locations of flooding hot spots based on intersections with floodplain risk areas, current and enhanced for future climate change
Bus Stops Missed	Number of existing bus stops skipped due to a reroute.

Pace Ops Data Worksheet

All transit GIS data was provided by Pace, and processed by AECOM and its subconsultant UrbanGIS. It included the following:

- Bus stop locations
- Driver-reported routes with flood problems
- Stop-level ridership

Costs and Operating Stats Q2 sent 20161012. This table provided annual daily ridership categorized by route and day type, annual revenue miles and hours by route, and estimated operating costs, estimated hourly operating costs and revenue received by route.

RSM_APC_Spring 2016. Three Excel files were included for weekday, Saturday, and Sunday ridership by stop. The data provided average boardings and alightings at each stop. For our analysis, we only included boarding averages. All boarding averages were rounded to the next whole number.

Reroute turn-by-turn directions were provided by Pace and coded in GIS by AECOM and Urban GIS.

Route		Travel Time			Travel Time (Hours)				Cost					
Number	Type	Travel Time	Travel Time (Low)	Travel Time (Mod)	Travel Time (High)	Hours (one-way, Base)	Hours (one-way, Low)	Hours (one-way, Mod)	Hours (one-way, High)	Cost per hour	Cost per Trip (Base)	Cost per Trip (Low)	Cost per Trip (Mod)	Cost Per Trip (High)
208	Existing	95				1.58				\$ 76.05	\$ 119.78			
209	Existing	30				0.50				\$ 76.05	\$ 38.03			
221	Existing	55				0.92				\$ 76.05	\$ 69.71			
226	Existing	56				0.93				\$ 76.05	\$ 70.35			
230	Existing	40				0.67				\$ 76.05	\$ 50.70			
234	Existing	46				0.77				\$ 76.05	\$ 58.31			
302	Existing	34				0.56				\$ 73.14	\$ 40.84			
303	Existing	45				0.75				\$ 73.14	\$ 54.85			
309	Existing	45				0.75				\$ 73.14	\$ 54.85			
318	Existing	31				0.51				\$ 73.14	\$ 37.18			
322	Existing	60				1.00				\$ 73.14	\$ 73.14			
330	Existing	64				1.07				\$ 73.14	\$ 78.01			
331	Existing	55				0.92				\$ 73.14	\$ 67.04			
332	Existing	69				1.14				\$ 73.14	\$ 83.50			
356	Existing	33				0.54				\$ 88.36	\$ 47.86			
364	Existing	90				1.50				\$ 88.36	\$ 132.54			
381	Existing	54				0.90				\$ 66.63	\$ 59.96			
386	Existing	67				1.12				\$ 66.63	\$ 74.40			
626	Existing	70				1.17				\$ 69.94	\$ 81.60			
757	Existing	63				1.04				\$ 73.14	\$ 76.18			
208	Reroute	73	77	84	95	1.22	1.28	1.40	1.58	\$ 76.05	\$ 92.53	\$ 97.15	\$ 106.41	\$ 120.29
209	Reroute	28	29	32	36	0.47	0.49	0.54	0.61	\$ 76.05	\$ 35.49	\$ 37.26	\$ 40.81	\$ 46.14
221	Reroute	45	47	52	59	0.75	0.79	0.86	0.98	\$ 76.05	\$ 57.04	\$ 59.89	\$ 65.59	\$ 74.15
226	Reroute	44	46	50	57	0.73	0.76	0.83	0.94	\$ 76.05	\$ 55.14	\$ 57.89	\$ 63.41	\$ 71.68
230	Reroute	33	35	38	43	0.55	0.58	0.63	0.72	\$ 76.05	\$ 41.83	\$ 43.92	\$ 48.10	\$ 54.38
234	Reroute	34	35	39	44	0.56	0.59	0.64	0.73	\$ 76.05	\$ 42.46	\$ 44.58	\$ 48.83	\$ 55.20
302	Reroute	36	38	41	47	0.60	0.63	0.69	0.78	\$ 73.14	\$ 43.88	\$ 46.08	\$ 50.46	\$ 57.05
303	Reroute	40	42	46	52	0.67	0.70	0.77	0.87	\$ 73.14	\$ 48.76	\$ 51.20	\$ 56.07	\$ 63.39
309	Reroute	48	50	55	62	0.80	0.84	0.92	1.04	\$ 73.14	\$ 58.51	\$ 61.44	\$ 67.29	\$ 76.06
318	Reroute	39	41	45	51	0.65	0.68	0.75	0.85	\$ 73.14	\$ 47.54	\$ 49.92	\$ 54.67	\$ 61.80
322	Reroute	67	70	76	86	1.11	1.16	1.27	1.44	\$ 73.14	\$ 81.06	\$ 85.11	\$ 93.22	\$ 105.38
330	Reroute	70	74	81	91	1.17	1.23	1.34	1.52	\$ 73.14	\$ 85.33	\$ 89.59	\$ 98.13	\$ 110.93
331	Reroute	60	63	69	78	1.00	1.05	1.15	1.30	\$ 73.14	\$ 73.14	\$ 76.79	\$ 84.11	\$ 95.08
332	Reroute	63	66	72	81	1.04	1.09	1.20	1.35	\$ 73.14	\$ 76.18	\$ 79.99	\$ 87.61	\$ 99.04
356	Reroute	35	37	40	46	0.58	0.61	0.67	0.76	\$ 88.36	\$ 51.54	\$ 54.12	\$ 59.27	\$ 67.01
364	Reroute	90	95	104	117	1.50	1.58	1.73	1.95	\$ 88.36	\$ 132.54	\$ 139.17	\$ 152.42	\$ 172.30
381	Reroute	53	55	60	68	0.88	0.92	1.01	1.14	\$ 66.63	\$ 58.30	\$ 61.21	\$ 67.04	\$ 75.79
386	Reroute	70	74	81	91	1.17	1.23	1.34	1.52	\$ 66.63	\$ 77.73	\$ 81.62	\$ 89.39	\$ 101.05
626	Reroute	75	79	86	98	1.25	1.31	1.44	1.63	\$ 69.94	\$ 87.42	\$ 91.80	\$ 100.54	\$ 113.65
757	Reroute	64	67	74	83	1.07	1.12	1.23	1.39	\$ 73.14	\$ 78.01	\$ 81.91	\$ 89.72	\$ 101.42

Pace Reroute Impact Analysis

Route		Cost Change per Trip				Custom Travel Time Adjustments									
Number	Type	Cost Change per Trip (Base)	Cost Change per Trip (Low)	Cost Change per Trip (Mod)	Cost Change per Trip (High)	Congestion	Storm Severity	Operating Delay	Factor AVG	Time Factor	Travel Time (with time factor)	Hours (one-way, with time factor)	Cost Per Trip (Time Factor)	Cost Change per Trip (Time Factor)	
208	Existing														
209	Existing														
221	Existing														
226	Existing														
230	Existing														
234	Existing														
302	Existing														
303	Existing														
309	Existing														
318	Existing														
322	Existing														
330	Existing														
331	Existing														
332	Existing														
356	Existing														
364	Existing														
381	Existing														
386	Existing														
626	Existing														
757	Existing														
208	Reroute	\$ (27.25)	\$ (22.63)	\$ (13.37)	\$ 0.51	Low	Low	Low	1.0000	5%	76.7	1.28	\$ 97.15	\$ (22.63)	
209	Reroute	\$ (2.54)	\$ (0.76)	\$ 2.79	\$ 8.11	Low	Low	Low	1.0000	5%	29.4	0.49	\$ 37.26	\$ (0.76)	
221	Reroute	\$ (12.68)	\$ (9.82)	\$ (4.12)	\$ 4.44	Low	Low	Low	1.0000	5%	47.3	0.79	\$ 59.89	\$ (9.82)	
226	Reroute	\$ (15.21)	\$ (12.45)	\$ (6.94)	\$ 1.33	Low	Low	Low	1.0000	5%	45.7	0.76	\$ 57.89	\$ (12.45)	
230	Reroute	\$ (8.87)	\$ (6.78)	\$ (2.60)	\$ 3.68	Low	Low	Low	1.0000	5%	34.7	0.58	\$ 43.92	\$ (6.78)	
234	Reroute	\$ (15.84)	\$ (13.72)	\$ (9.47)	\$ (3.11)	Low	Low	Low	1.0000	5%	35.2	0.59	\$ 44.58	\$ (13.72)	
302	Reroute	\$ 3.05	\$ 5.24	\$ 9.63	\$ 16.21	Low	Low	Low	1.0000	5%	37.8	0.63	\$ 46.08	\$ 5.24	
303	Reroute	\$ (6.09)	\$ (3.66)	\$ 1.22	\$ 8.53	Low	Low	Low	1.0000	5%	42.0	0.70	\$ 51.20	\$ (3.66)	
309	Reroute	\$ 3.66	\$ 6.58	\$ 12.43	\$ 21.21	Low	Low	Low	1.0000	5%	50.4	0.84	\$ 61.44	\$ 6.58	
318	Reroute	\$ 10.36	\$ 12.74	\$ 17.49	\$ 24.62	Low	Low	Low	1.0000	5%	41.0	0.68	\$ 49.92	\$ 12.74	
322	Reroute	\$ 7.92	\$ 11.98	\$ 20.08	\$ 32.24	Low	Low	Low	1.0000	5%	69.8	1.16	\$ 85.11	\$ 11.98	
330	Reroute	\$ 7.31	\$ 11.58	\$ 20.11	\$ 32.91	Low	Low	Low	1.0000	5%	73.5	1.23	\$ 89.59	\$ 11.58	
331	Reroute	\$ 6.09	\$ 9.75	\$ 17.07	\$ 28.04	Low	Low	Low	1.0000	5%	63.0	1.05	\$ 76.79	\$ 9.75	
332	Reroute	\$ (7.31)	\$ (3.50)	\$ 4.11	\$ 15.54	Low	Low	Low	1.0000	5%	65.6	1.09	\$ 79.99	\$ (3.50)	
356	Reroute	\$ 3.68	\$ 6.26	\$ 11.41	\$ 19.14	Low	Low	Low	1.0000	5%	36.8	0.61	\$ 54.12	\$ 6.26	
364	Reroute	\$ -	\$ 6.63	\$ 19.88	\$ 39.76	Low	Low	Low	1.0000	5%	94.5	1.58	\$ 139.17	\$ 6.63	
381	Reroute	\$ (1.67)	\$ 1.25	\$ 7.08	\$ 15.82	Low	Low	Low	1.0000	5%	55.1	0.92	\$ 61.21	\$ 1.25	
386	Reroute	\$ 3.33	\$ 7.22	\$ 14.99	\$ 26.65	Low	Low	Low	1.0000	5%	73.5	1.23	\$ 81.62	\$ 7.22	
626	Reroute	\$ 5.83	\$ 10.20	\$ 18.94	\$ 32.06	Low	Low	Low	1.0000	5%	78.8	1.31	\$ 91.80	\$ 10.20	
757	Reroute	\$ 1.83	\$ 5.73	\$ 13.53	\$ 25.23	Low	Low	Low	1.0000	5%	67.2	1.12	\$ 81.91	\$ 5.73	

Route	Route Type	Average Daily Ridership	Ridership Change	Impacted Ridership (ADR)			Segment 1 Ridership			Segment 2 Ridership			# of Flooding Incidents	Missed Bus Stops	Change in Flood Incidents			
				Total	Weekday	Saturday	Sunday	Total	Weekday	Saturday	Sunday	Total				Weekday	Saturday	Sunday
208	Existing	1,847													1			
209	Existing	369													1			
221	Existing	726													0			
226	Existing	696													1			
230	Existing	370													1			
234	Existing	266													0			
302	Existing	551													2			
303	Existing	1,130													5			
309	Existing	881													2			
318	Existing	2,402													3			
322	Existing	2,243													2			
330	Existing	1,223													6			
331	Existing	1,142													4			
332	Existing	629													4			
356	Existing	581													2			
364	Existing	2,043													1			
381	Existing	3,669													1			
386	Existing	1,423													1			
626	Existing	346													0			
757	Existing	210													0			
208	Reroute	1,687	-9%	160	160	55	35	160	149	55	35				0	34	-1	
209	Reroute	368	0%	1	1	0	0	1	1	0	0				1	6	0	
221	Reroute	683	-6%	43	43	NA	NA	43	43	NA	NA				0	34	0	
226	Reroute	694	0%	2	2	NA	NA	2	2	NA	NA				1	17	0	
230	Reroute	365	-1%	5	5	NA	NA	5	5	NA	NA				1	7	0	
234	Reroute	248	-7%	18	18	NA	NA	18	18	NA	NA				0	30	0	
302	Reroute	546	-1%	5	3	2	NA	5	3	2	NA				2	2	0	
303	Reroute	515	-54%	615	615	NA	NA	615	615	NA	NA				0	138	-5	
309	Reroute	820	-7%	61	35	20	6	8	5	2	1	53	30	18	5	2	25	0
318	Reroute	926	-61%	1476	716	426	334	280	181	62	37	1196	535	364	297	2	32	-1
322	Reroute	2,175	-3%	68	38	21	9	68	38	21	9				2	2	0	
330	Reroute	948	-22%	275	150	74	51	200	115	52	33	75	35	22	18	8	16	2
331	Reroute	1,080	-5%	62	50	12	NA	62	50	12	NA				3	33	-1	
332	Reroute	477	-24%	152	65	39	48	152	65	39	48				5	19	1	
356	Reroute	567	-2%	14	6	5	3	14	6	5	3				2	7	0	
364	Reroute	2,043	0%	0	0	0	0	0							1	0	0	
381	Reroute	3,631	-1%	38	28	1	9	38	28	1	9				0	7	-1	
386	Reroute	1,344	-6%	79	57	19	3	79	57	19	3				0	10	-1	
626	Reroute	346	0%	0	NA	0	0	0	No ridership data was provided						0	0	0	
757	Reroute	210	0%	0	NA	0	0	0	No reroute was suggested						0	0	0	

*Note: The numbers represent average boardings and average ridership for September 2016.

Route Number	Service Day	Division	Route Name	Service Type	Minority Service	Counties Served	2015 Average Daily Ridership	2016 Average Daily Ridership	Percent Change	Vehicle Miles
208	Wkd	Northwest	Golf Road	CTA Connector	*	Cook (Chicago), Cook (Suburbs)	1,943	1,847	-4.92%	1,743.83
209	Wkd	Northwest	Busse Highway	CTA Connector		Cook (Chicago), Cook (Suburbs)	368	369	0.39%	371.53
221	Wkd	Northwest	Wolf Road	CTA Connector	*	Cook (Chicago), Cook (Suburbs)	780	726	-6.90%	605.78
226	Wkd	Northwest	Oakton Street	CTA Connector		Cook (Chicago), Cook (Suburbs), Kane	726	696	-4.02%	763.51
230	Wkd	Northwest	South Des Plaines	CTA Connector	*	Cook (Suburbs), DuPage	396	370	-6.69%	382.95
234	Wkd	Northwest	Wheeling - Des Plaines	Suburban Links	*	Cook (Suburbs), Lake	301	266	-11.71%	581.85
302	Wkd	West	Ogden - Stanley	CTA Connector	*	Cook (Chicago), Cook (Suburbs)	620	551	-11.12%	437.98
303	Wkd	West	Forest Park - Rosemont	CTA Connector	*	Cook (Chicago), Cook (Suburbs)	1,216	1,130	-7.09%	723.36
309	Wkd	West	Lake Street	CTA Connector	*	Cook (Chicago), Cook (Suburbs), DuPage	890	881	-0.92%	521.31
318	Wkd	West	West North Avenue	CTA Connector	*	Cook (Chicago), Cook (Suburbs), DuPage	2,364	2,402	1.58%	851.63
322	Wkd	West	Cermak Road - 22nd Street	CTA Connector	*	Cook (Chicago), Cook (Suburbs), DuPage	2,413	2,243	-7.04%	1,676.09
330	Wkd	West	Mannheim - LaGrange Roads	CTA Connector	*	Cook (Chicago), Cook (Suburbs), DuPage	1,261	1,223	-3.00%	1,535.78
331	Wkd	West	Cumberland - 5th Avenue	CTA Connector		Cook (Chicago), Cook (Suburbs)	1,255	1,142	-9.01%	920.26
332	Wkd	West	River - York Roads	CTA Connector		Cook (Chicago), Cook (Suburbs), DuPage	530	629	18.53%	605.34
356	Wkd	South	Harvey - Homewood - Tinley Park	Suburban Links	*	Cook (Chicago), Cook (Suburbs), DuPage, Will	629	581	-7.59%	703.99
364	Wkd	South	159th Street	Suburban Links	*	Cook (Chicago), Cook (Suburbs), Lake (Indiana)	2,345	2,043	-12.89%	1,627.70
381	Wkd	Southwest	95th Street	CTA Connector		Cook (Chicago), Cook (Suburbs), Lake (Indiana), Will	3,899	3,669	-5.91%	1,350.33
386	Wkd	Southwest	South Harlem	CTA Connector		Cook (Chicago), Cook (Suburbs), DuPage, Will	1,402	1,423	1.45%	1,420.21
626	Wkd	North Shore	Skokie Valley Limited	CTA Connector		Cook (Suburbs), Lake	388	346	-10.70%	869.54
757	Wkd	West	Northwest Connection	CTA Connector	*	Cook (Suburbs), DuPage	210	210	-0.13%	476.62

Pace Reroute Impact Analysis

Route Number	Revenue		Total Estimated		Passengers		Operating		Farebox Recovery Ratio	Miles per Passenger	Cost per Revenue Hour	Passengers per Revenue Mile	Other External Block Funding	Revenue per Rider	Total Hourly Operating Cost
	Miles	Vehicle Hours	Revenue Hours	Daily Operating Cost	Estimated Revenue	per Revenue Hour	Operating Subsidy per Rider	Subsidy per Vehicle Mile							
208	1,620.50	108.25	87.02	\$8,232.26	\$1,993.29	21	\$3.38	24%	\$3.58	0.94	\$94.61	1.14		\$1.08	\$76.05
209	333.30	28.66	20.03	\$2,179.65	\$340.50	18	\$4.98	16%	\$4.95	1.01	\$108.80	1.11		\$0.92	\$76.05
221	524.44	40.63	32.60	\$3,090.00	\$794.85	22	\$3.16	26%	\$3.79	0.83	\$94.78	1.38		\$1.09	\$76.05
226	656.40	51.85	39.18	\$3,942.88	\$697.29	18	\$4.66	18%	\$4.25	1.10	\$100.63	1.06		\$1.00	\$76.05
230	327.32	30.31	24.01	\$2,305.29	\$400.63	15	\$5.15	17%	\$4.97	1.04	\$96.02	1.13		\$1.08	\$76.05
234	511.95	39.42	32.98	\$2,997.67	\$309.84	8	\$10.11	10%	\$4.62	2.19	\$90.88	0.52		\$1.16	\$76.05
302	376.61	37.18	26.35	\$2,719.34	\$565.77	21	\$3.91	21%	\$4.92	0.79	\$103.20	1.46		\$1.03	\$73.14
303	661.54	55.40	40.72	\$4,051.47	\$1,142.16	28	\$2.57	28%	\$4.02	0.64	\$99.50	1.71		\$1.01	\$73.14
309	475.21	43.95	31.17	\$3,214.66	\$861.78	28	\$2.67	27%	\$4.51	0.59	\$103.14	1.85		\$0.98	\$73.14
318	771.39	75.82	52.78	\$5,545.34	\$2,284.48	45	\$1.36	41%	\$3.83	0.35	\$105.06	3.11		\$0.95	\$73.14
322	1,479.20	125.83	98.93	\$9,202.94	\$2,479.48	23	\$3.00	27%	\$4.01	0.75	\$93.02	1.52		\$1.11	\$73.14
330	1,376.47	96.16	70.92	\$7,032.81	\$1,476.81	17	\$4.54	21%	\$3.62	1.26	\$99.17	0.89		\$1.21	\$73.14
331	870.55	71.12	57.83	\$5,201.25	\$1,221.51	20	\$3.48	23%	\$4.32	0.81	\$89.94	1.31		\$1.07	\$73.14
332	502.04	37.70	26.65	\$2,757.51	\$635.39	24	\$3.38	23%	\$3.51	0.96	\$103.47	1.25		\$1.01	\$73.14
356	687.04	44.53	31.92	\$3,934.94	\$590.29	18	\$5.75	15%	\$4.75	1.21	\$123.29	0.85		\$1.02	\$88.36
364	1,485.70	113.75	89.68	\$10,050.90	\$2,280.14	23	\$3.80	23%	\$4.77	0.80	\$112.07	1.37		\$1.12	\$88.36
381	1,290.93	112.78	89.93	\$7,514.29	\$3,455.22	41	\$1.11	46%	\$3.01	0.37	\$83.55	2.84		\$0.94	\$66.63
386	1,265.49	82.87	61.93	\$5,521.07	\$1,571.86	23	\$2.78	28%	\$2.78	1.00	\$89.15	1.12		\$1.10	\$66.63
626	537.40	39.79	25.87	\$2,783.14	\$407.64	13	\$6.86	15%	\$2.73	2.51	\$107.60	0.64		\$1.18	\$69.94
757	253.90	21.36	12.33	\$1,562.09	\$232.53	17	\$6.33	15%	\$2.79	2.27	\$126.66	0.83		\$1.11	\$73.14

Route	Travel Time per Trip (Minutes)					Change in Travel Time per Trip (Minutes)					Cost per Trip					Change in Cost per Trip				
	Existing	Reroute (Base)	Low	Mod	High	Reroute (Base)	Low	Mod	High	Existing	Reroute (Base)	Low	Mod	High	Reroute (Base)	Low	Mod	High		
208	95	73	77	84	95	-22	-18	-11	0	\$ 119.78	\$ 92.53	\$ 97.15	\$ 106.41	\$ 120.29	\$ (27.25)	\$ (22.63)	\$ (13.37)	\$ 0.51		
209	30	28	29	32	36	-2	-1	2	6	\$ 38.03	\$ 35.49	\$ 37.26	\$ 40.81	\$ 46.14	\$ (2.54)	\$ (0.76)	\$ 2.79	\$ 8.11		
221	55	45	47	52	59	-10	-8	-3	4	\$ 69.71	\$ 57.04	\$ 59.89	\$ 65.59	\$ 74.15	\$ (12.68)	\$ (9.82)	\$ (4.12)	\$ 4.44		
226	56	44	46	50	57	-12	-10	-5	1	\$ 70.35	\$ 55.14	\$ 57.89	\$ 63.41	\$ 71.68	\$ (15.21)	\$ (12.45)	\$ (6.94)	\$ 1.33		
230	40	33	35	38	43	-7	-5	-2	3	\$ 50.70	\$ 41.83	\$ 43.92	\$ 48.10	\$ 54.38	\$ (8.87)	\$ (6.78)	\$ (2.60)	\$ 3.68		
234	46	34	35	39	44	-13	-11	-7	-2	\$ 58.31	\$ 42.46	\$ 44.58	\$ 48.83	\$ 55.20	\$ (15.84)	\$ (13.72)	\$ (9.47)	\$ (3.11)		
302	34	36	38	41	47	3	4	8	13	\$ 40.84	\$ 43.88	\$ 46.08	\$ 50.46	\$ 57.05	\$ 3.05	\$ 5.24	\$ 9.63	\$ 16.21		
303	45	40	42	46	52	-5	-3	1	7	\$ 54.85	\$ 48.76	\$ 51.20	\$ 56.07	\$ 63.39	\$ (6.09)	\$ (3.66)	\$ 1.22	\$ 8.53		
309	45	48	50	55	62	3	5	10	17	\$ 54.85	\$ 58.51	\$ 61.44	\$ 67.29	\$ 76.06	\$ 3.66	\$ 6.58	\$ 12.43	\$ 21.21		
318	31	39	41	45	51	9	10	14	20	\$ 37.18	\$ 47.54	\$ 49.92	\$ 54.67	\$ 61.80	\$ 10.36	\$ 12.74	\$ 17.49	\$ 24.62		
322	60	67	70	76	86	7	10	16	26	\$ 73.14	\$ 81.06	\$ 85.11	\$ 93.22	\$ 105.38	\$ 7.92	\$ 11.98	\$ 20.08	\$ 32.24		
330	64	70	74	81	91	6	10	17	27	\$ 78.01	\$ 85.33	\$ 89.59	\$ 98.13	\$ 110.93	\$ 7.31	\$ 11.58	\$ 20.11	\$ 32.91		
331	55	60	63	69	78	5	8	14	23	\$ 67.04	\$ 73.14	\$ 76.79	\$ 84.11	\$ 95.08	\$ 6.09	\$ 9.75	\$ 17.07	\$ 28.04		
332	69	63	66	72	81	-6	-3	3	13	\$ 83.50	\$ 76.18	\$ 79.99	\$ 87.61	\$ 99.04	\$ (7.31)	\$ (3.50)	\$ 4.11	\$ 15.54		
356	33	35	37	40	46	3	4	8	13	\$ 47.86	\$ 51.54	\$ 54.12	\$ 59.27	\$ 67.01	\$ 3.68	\$ 6.26	\$ 11.41	\$ 19.14		
364	90	90	95	104	117	0	5	14	27	\$ 132.54	\$ 132.54	\$ 139.17	\$ 152.42	\$ 172.30	\$ -	\$ 6.63	\$ 19.88	\$ 39.76		
381	54	53	55	60	68	-2	1	6	14	\$ 59.96	\$ 58.30	\$ 61.21	\$ 67.04	\$ 75.79	\$ (1.67)	\$ 1.25	\$ 7.08	\$ 15.82		
386	67	70	74	81	91	3	7	14	24	\$ 74.40	\$ 77.73	\$ 81.62	\$ 89.39	\$ 101.05	\$ 3.33	\$ 7.22	\$ 14.99	\$ 26.65		
626	70	75	79	86	98	5	9	16	28	\$ 81.60	\$ 87.42	\$ 91.80	\$ 100.54	\$ 113.65	\$ 5.83	\$ 10.20	\$ 18.94	\$ 32.06		
757	63	64	67	74	83	2	5	11	21	\$ 76.18	\$ 78.01	\$ 81.91	\$ 89.72	\$ 101.42	\$ 1.83	\$ 5.73	\$ 13.53	\$ 25.23		

Route Change						
# of Flooding Incidents	Change # of Flooding Incidents	Missed Bus Stops	Existing ADR	ADR with Reroute	% Change	Net Impacted Riders
1	-1	34	1,847	1,687	-8.7%	160
1	0	6	369	368	-0.3%	1
0	0	34	726	683	-5.9%	43
1	0	17	696	694	-0.3%	2
1	0	7	370	365	-1.4%	5
0	0	30	266	248	-6.8%	18
2	0	2	551	546	-0.9%	5
5	-5	138	1,130	515	-54.4%	615
2	0	25	881	820	-6.9%	61
3	-1	32	2,402	926	-61.5%	1476
2	0	2	2,243	2,175	-3.0%	68
6	2	16	1,223	948	-22.5%	275
4	-1	33	1,142	1,080	-5.4%	62
4	1	19	629	477	-24.2%	152
2	0	7	581	567	-2.4%	14
1	0	0	2,043	2,043	0.0%	0
1	-1	7	3,669	3,631	-1.0%	38
1	-1	10	1,423	1,344	-5.6%	79
0	0	0	346	346	0.0%	0
0	0	0	210	210	0.0%	0

