



# Transfer Plan Review Part 2

Workshop 2 – February 12, 2015



**King County**

Department of  
Natural Resources and Parks  
**Solid Waste Division**

Waste  
Prevention

Resource  
Recovery

Waste  
Disposal

# Agenda

- 12:30 Introduction to the Day
- 12:45 Review of Concepts and Strategies
- 1:00 Study Approach
- 1:20 Traffic and Service Time Findings
- 2:20 Break
- 2:30 Traffic and Service Time Findings continued
- 3:30 Self-Haul and Commercial Hauler Surveys
- 3:50 General Discussion
- 4:20 Wrap up
- 4:30 Adjourn

# Objectives for Today

- Provide an update on work completed to date
- Share data and findings relative to concepts and demand management strategies
- Hear questions and preliminary feedback before completing the draft report

# Purpose of this Review

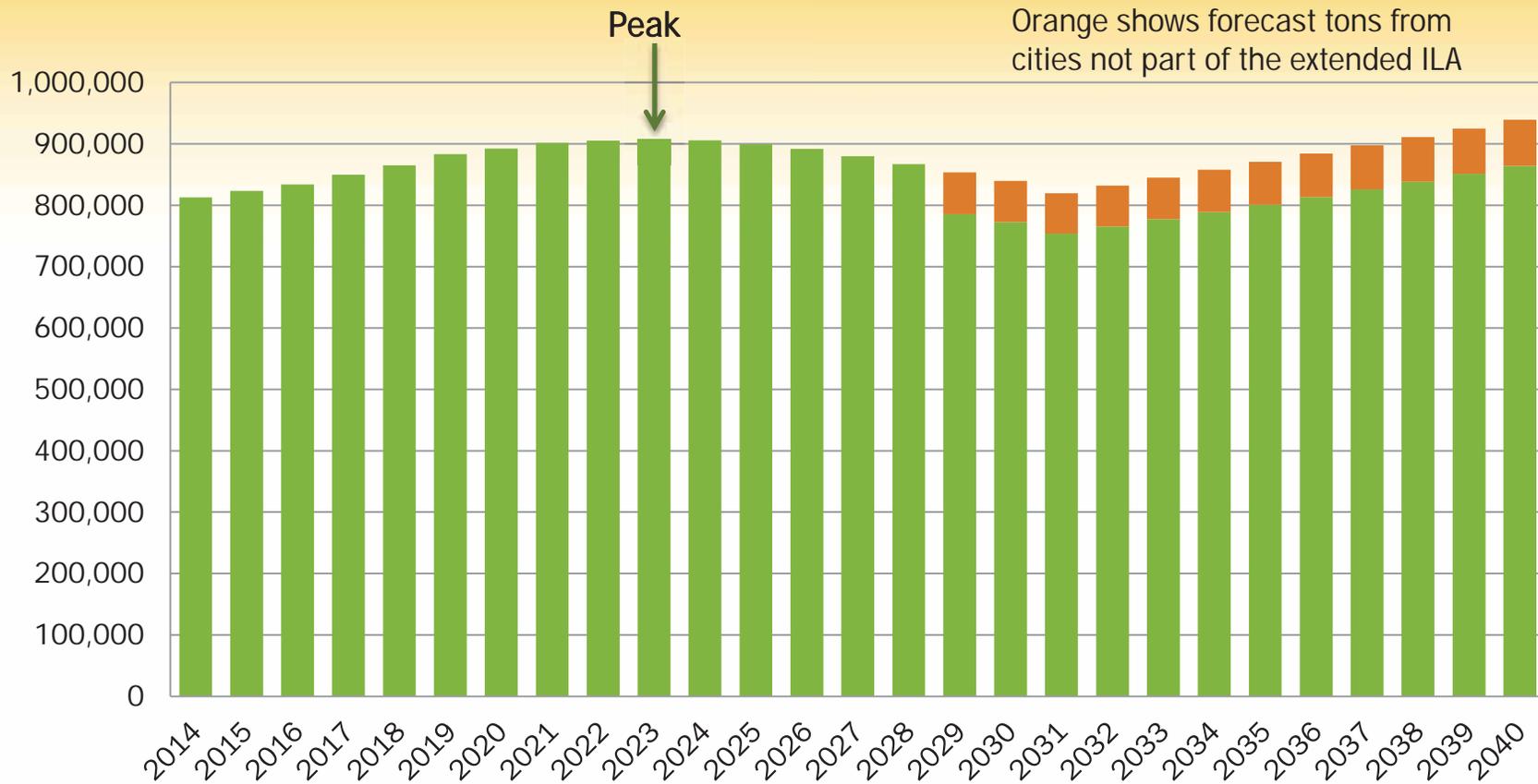
## Address [Council Motion 14145](#)

- Explore strategies to manage transactions at transfer stations
- Analyze options which do not build a Northeast Recycling & Transfer Station
- Analyze closure of the Renton Transfer Station

*Draft report by March 31, 2015*

*Final report by June 30, 2015*

# Forecast of Garbage Disposed 2014 - 2040



# Concepts

- Concept 0 – No Northeast, does not direct commercial haulers, no self-haul restrictions
  - Concept 1 – Direct commercial haulers, no Northeast (E1 \*)
  - Concept 2 – Restrict self-haul, no Northeast (E2\*)
  - Concept 3 – Build Northeast Recycling & Transfer Station
- *All assume Houghton closed*
- *All analyzed with and without Renton*

*\*As referenced in Council Motion 14145*

# Concept 0

- Baseline – provides basis to identify issues
- Houghton closes, no Northeast
- Assumes transactions move based on geography and current customer use patterns
- Does not direct commercial haulers
- No self-haul restrictions
- Assumes operating hours similar to current
- HHW and recycling would be available at Factoria
- Two scenarios – with and without Renton Transfer Station

# Concept 1

- Adapted from Alternative E1 from the *Transfer Plan Review Report*
- Houghton closes, no Northeast
- Directs commercial haulers to specific station to balance use across the system more evenly
- Would require Council approval of a motion to direct commercial haulers
- Restrictions could change when commercial hauler vehicles serving Bellevue and other cities that are not party to the new ILA are no longer using Factoria
- Assumes operating hours similar to current
- HHW and recycling would be available at Factoria
- Two scenarios – with and without Renton

# Concept 1: Direct Commercial

cities/surrounding areas directed to Factoria	cities/surrounding areas directed to Shoreline	cities/surrounding areas directed to Renton	cities/surrounding areas directed to Bow Lake
Beaux Arts, Bellevue, Carnation, Clyde Hill, Hunts Point, Issaquah, Medina, Newcastle, North Bend, Redmond, Sammamish, Snoqualmie, Yarrow Point	Bothell, Duvall, Kenmore, Kirkland, Lake Forest Park, Shoreline, Woodinville	n/a – Renton closed or not accepting commercial	Mercer Island, Renton
Beaux Arts, Bellevue, Carnation, Clyde Hill, Hunts Point, Medina, Mercer Island, Redmond, Sammamish, Yarrow Point	Bothell, Duvall, Kenmore, Kirkland, Lake Forest Park, Shoreline, Woodinville	Issaquah, Newcastle, North Bend, Renton, Snoqualmie	

# Concept 2

- Adapted from Alternative E2 from the *Transfer Plan Review Report*
- Restricts self-haul use during peak commercial hours— 6 a.m. to 3 p.m.
- Would require Council approval of a motion to restrict self-haul
- Assumes extended Factoria hours of 6 a.m. to 10 p.m. weekdays and 8 a.m. to 8 p.m. weekends
- Redistributes self-haul transactions to less busy stations and hours
- HHW and recycling would be available at Factoria
- Houghton closes, no Northeast
- Two scenarios – with and without Renton Transfer Station

# Concept 3

- Sites and builds a Northeast Recycling and Transfer Station to serve area currently served by Houghton
- For analysis purposes, considered locations at the end of 520 and in the Totem Lake area
- Assumes Northeast of similar size, design, and operation as new Factoria
- Assumes similar operating hours as current Houghton
- Two scenarios – with and without Renton Transfer Station

# Summary of Findings

- Renton
  - No capacity issues
  - Some affect on Factoria and Bow Lake, but not a deciding factor
- Shoreline
  - Constraints are the outbound queue and the commercial tip floor
  - Constraints are more pronounced on weekends
  - Results in longer service times and some offsite queue issues
- Bow Lake
  - Primary constraint is the inbound scale; mitigating the inbound scale moves the constraint to the outbound scale
  - Offsite queue would extend well beyond the intersection with Orillia Road
- Factoria
  - Primary constraint is self-haul tipping floor capacity
  - Occurs on both weekdays and weekends, with and without Renton
  - Results in long service times and offsite queues that would extend well beyond the intersection with Richards Road

# Strategies

Strategies can decrease the number of customers using a station or increase the number of customers that can be served

- Demand management
  - Extend operating hours
  - Incentive/peak pricing
  - Provide wait time information
  - Mandatory curbside garbage collection
  - Lower cost bulky waste collection
  - Higher minimum fee
  - Lower regional direct fee
  - No HHW service at Factoria
  - Ban materials
- Site capacity improvements
  - Add scales and/or queueing lanes
  - Add stalls/increase tip floor capacity
  - Provide unloading assistance

Mitigation strategies can be operational or capital, both affect the tip fee



# Strategy: Extend Operating Hours

- Extended hours at Factoria
  - 6 a.m. to 10 p.m. weekdays and 8 a.m. to 8 p.m. Sat. & Sun.
- Concept 2 includes extended hours; considered as mitigation in other Concepts
- Operating cost ~\$1.5 million in 2023
- Would add vehicle traffic during p.m. peak commuter hours
- Impact to neighboring businesses
- Requires King County process to change hours
- Reduced noise code limit at all nearby residential use properties during nighttime hours NE of the site
- New SEPA due to increased traffic during p.m. peak

# Strategy: Incentive/Peak Pricing

- In conjunction with extended hours, would encourage use during off-peak hours
- Factoria peak price hours – 9 a.m. to 4 p.m. (in Concept 2 would be on weekends only)
- Price elasticity research indicates that a 50 percent price increase during peak hours would cause an estimated 15 percent drop in transactions during those hours, thus moving transactions to other transfer stations or to off-peak hours
- Revenue increase of ~\$700,000 to 2.2 million (2023) depending on Concept (assumed peak hour minimum fee of \$41.25 in 2023)
- Issues include fee equity, adverse impacts on low income customers and small business owners, customer dissatisfaction, and potential increases in illegal dumping

# Strategy: Provide Wait Time Information

- Customers could check before going to the transfer station on status of the queue/wait
- Use cameras that are already in place to publish a constantly updated photo to SWD website – cost would be minimal
- No indication that peak traffic would decrease
- Other organizations did not have data on how their customers or services have been affected by providing information
  - Seattle Public Utilities and Town of Sandwich Mass.: transfer station webcams
  - WSDOT Ferries: webcams and vehicle capacity and wait times
  - Washington Vehicle Emissions Testing: webcams and wait times
  - Washington Dept. of Licensing: wait times
  - King County Park & Ride: parking space capacity and some observed busy times, e.g., “this location is usually full by 9:00 a.m.”, no monitoring of actual capacity
  - Sound Transit: parking space capacity, currently no monitoring, planning a pilot that will provide information

# Strategy: Mandatory Garbage Collection

- Estimated reduction in transfer station transactions based on survey data about what self-haul customers bring to the transfer stations and the number of trips made by those who subscribe to collection vs. those who do not subscribe

## Estimated percentage reduction in self-haul transactions if mandatory garbage collection

Algona	Bow Lake	Factoria	Houghton	Renton	Shoreline
10.6%	14.9%	6.5%	1.4%	11.6%	16.6%

- Cities and the County would need to pass mandatory collection ordinances
- Issues include citizen dissatisfaction due to reduction in choice, some properties are not easily served by curbside, and potential impacts on low income residents

# Strategy: Lower Cost Bulky Collection

- Current cost for pick up of a bulky item ranges from a low of just over \$20 up to about \$100 – with a median cost of about \$50 to \$65 per item
- Estimated an overall reduction in transfer station transactions based on survey data about what self-haul customers bring to the transfer stations and willingness to pay for curbside bulky collection if priced at \$25 to \$35 per item, transaction reduction varies by site, but overall effect is minimal
- Cities and haulers would be primarily responsible for determining a system that would lower cost and instituting changes to bulky waste collection

# Strategy: Higher Minimum Fee

- Price elasticity for garbage is low compared to other goods and services
- Modeled an increase of 100 percent (double)
- If doubled minimum fee at all sites, estimate a 7.5 percent decrease in overall transactions
- If doubled minimum fee at Factoria only, estimate a 20 percent reduction in transactions at Factoria
- Revenue increase of ~\$10 to 15 million (2023) depending on system-wide or station specific and per ton fee (assumed minimum fee of \$55 in 2023)
- Issues include fee equity, adverse impacts on low income customers and small business owners, customer dissatisfaction, and potential increases in illegal dumping

# Strategy: Lower Regional Direct Fee

- The Regional Direct Fee (RDF) is a discounted fee charged to commercial collection companies that bring solid waste to Cedar Hills in large transfer trailers via their own transfer stations and processing facilities
- The current RDF is \$103.50 – about 14 percent less than the Basic Fee
- Before April 2003, the RDF was about 28 percent lower
- Before the RDF percentage discount was lowered, about 25 percent of solid waste was brought directly to Cedar Hills; currently about 1 percent comes directly to Cedar Hills
- Available data and surveys of commercial haulers indicate that a lower RDF would not affect transfer capacity or demand in the northeast or Factoria service areas
  - Adequate private transfer capacity is not available
  - Waste diverted to Cedar Hills would be waste that currently goes to the Bow Lake, Algona, and Renton transfer stations

# Strategy: No HHW Service at Factoria

- No HHW service at Factoria would remove transactions from the transfer station and open up space
- Would need to provide service elsewhere
  - Siting process
  - SEPA for new facility
  - Permits needed including land use permit
- Capital cost ~\$9 million
- Issues include siting a new facility in the urban service area, potential increase in improper disposal, and decrease in service available at the transfer station

# Strategy: Ban Materials

- No disposal or recycling of yard/wood at Factoria (neither self-haul nor commercial)
- Banning these would remove an estimated one-third of materials from the transfer station
- Would need to be handled elsewhere
  - Other KC stations and private sector (revenue loss)
  - Site/build a drop box (~\$19 million)
- King County process necessary to implement ban – may require ordinance
- To support recycling goals, would recommend coupling with a disposal ban at other transfer stations
- Would require monitoring and enforcement
- Issues include decrease in service, potential revenue loss, siting a new drop box facility, potential illegal dumping

# Strategy: Additional Scales/Lanes

- Addresses specific constraints, e.g., if there is a queue waiting to exit the site then an additional outbound scale was considered
- Additional queueing space does not shorten wait time, but could help mitigate offsite impacts
- Considered queueing lane on approach to Factoria and additional internal queueing
- Capital costs are not high, but permits would be needed including SEPA depending on location

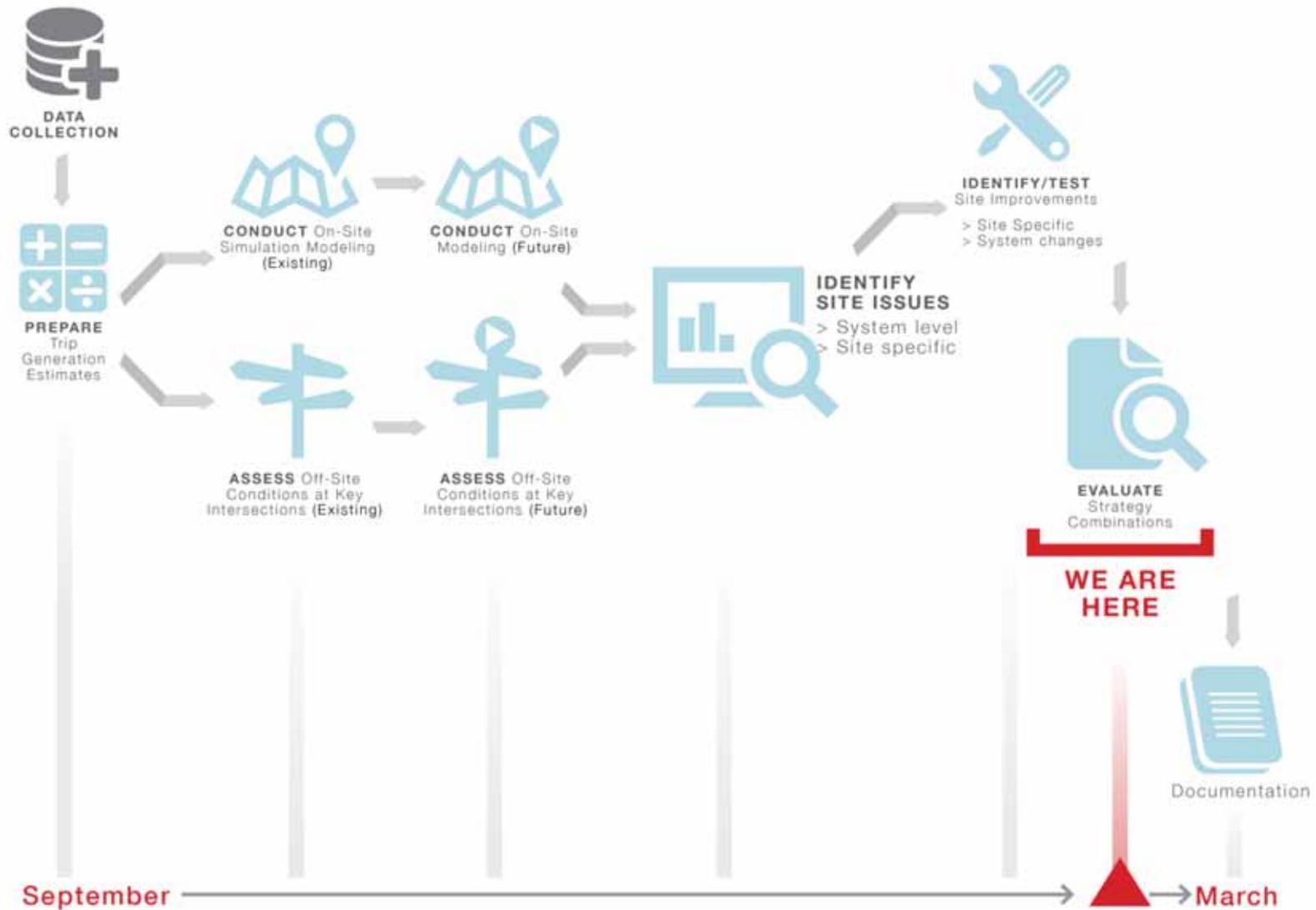
# Strategy: Increase Tip Floor Capacity

- Operational changes – assumed in all Concepts
  - Reconfigure floor at Factoria to maximize number of vehicles
  - No resource recovery from mixed loads at Factoria
- Ban materials – considered as a mitigation
  - No disposal and no recycling of yard/wood at Factoria
  - Would free up space for garbage
  - HHW and recycle areas not appropriate for garbage disposal and/or yard/wood

# Strategy: Unloading Assistance

- Would reduce self-haul time on tipping floor by an estimated 25 percent, reducing overall time on site and allowing more customers to be served each hour
- To be effective would require large staff increase resulting in additional operational cost  
~\$4 million in 2023 (~\$4.50 per ton)
- ~\$1 million capital cost for added staff facilities, permits would be needed

# TRANSPORTATION ANALYSIS APPROACH



## TRANSPORTATION ANALYSIS – OBJECTIVES

### Evaluate

**on-site circulation and capacity** of existing stations given forecasted tonnage associated with multiple operational concepts

**Identify** potential impacts to **off-site intersections** related to the implementation of multiple operational concepts

*Not discussed in today's workshop, but results will be presented in the final documentation*

# ON-SITE/OFF-SITE OPERATIONS ANALYSIS

## On-site Analysis

- VISSIM Analysis Package – microsimulation tool that models individual vehicles within the system. Data and performance metrics are collected for every vehicle within the system.
- Existing conditions model constructed for calibration purposes
- Calibration reflects travel time studies, processing rates, and queuing observations for each site
- Future modeling focusing primarily on 2023 – Concept 0.
- Additional concepts to be tested based on the outcome of Concept 0 modeling

## Off-site Intersection Analysis

- Key intersections impacted by site-related traffic
- Focused on peak periods of site traffic
- Analysis conducted using Highway Capacity Manual standards – Developed by the National Transportation Research Board and adopted by agencies to measure intersection capacity



# DATA COLLECTION SUMMARY

Data Collection Element	Description	Applicable Sites	Responsible for Data Collection	Responsible for Data Entry	Responsible for Analysis
Site Access Volumes	24-hour volumes at the site ingress and egress points. Collected via video or tubes – focus on daily counts and peak hour volumes for a 2-week period.	Renton, Factoria, Shoreline, Houghton	Idax	Transpo Group/ Idax	Transpo Group
Site ingress/Egress Queuing	Record inbound/outbound queuing levels for 2-week period - video.	Renton, Factoria, Shoreline, Houghton	Idax	Transpo Group/ Idax	Transpo Group
Internal Queuing	Record queuing levels at internal material transfer points – Video or observations	Renton, Factoria, Shoreline, Houghton, Bow Lake	Transpo Group / Idax / URS	Transpo Group / Idax / URS	Transpo Group
Internal trip patterns	Document the number and percentage of shared trips between multiple material transfers (i.e. garbage only vs. garbage and recycling).	Renton, Factoria, Shoreline, Houghton, Bow Lake	Transpo Group / URS	Transpo Group / URS	Transpo Group
Vehicle Duration/ Travel Time Onsite	Recording of entry and exit times of vehicles onsite via observation	Renton, Factoria, Shoreline, Houghton	Transpo Group / URS	Transpo Group / URS	Transpo Group
Customer Trip Origin	Identify customer origins via intercept surveys – recorded on paper or electronic format at the point of intercept.	Renton, Factoria, Shoreline, Houghton	Transpo Group / URS	Transpo Group / URS	Transpo Group
Offsite Turning Movement Counts	Peak-hour traffic volumes collected at offsite study intersection locations.	Renton, Factoria, Shoreline, Houghton	Idax	Transpo Group/ Idax	Transpo Group
Customer Processing Rates	Identify processing rates at key points. Including entry, exit, tipping floor, and HHW or recycling areas.	Renton, Factoria, Shoreline, Houghton, Bow Lake	Transpo Group / URS	Transpo Group / URS	Transpo Group
Haul Weight per Vehicle	Average haul weights per vehicle for the different uses will be observed at noted.	Renton, Factoria, Shoreline, Houghton	King County	King County	Transpo Group
Waste Stream Forecasts	Waste stream forecasts to be provided reflecting with and without the Renton facility. This would include information for garbage, recycling, and household hazardous waste.	Renton, Factoria, Shoreline, Houghton	King County	King County	Transpo Group

# SHORELINE EXAMPLE – DATA COLLECTION SCOPE

## Service Time Data Collection



Similar data was collected at Bow Lake, Renton, Houghton and Factoria (existing station)

# SHORELINE EXAMPLE – DATA COLLECTION SCOPE

## Traffic Volumes/Vehicle Queuing Data Collection

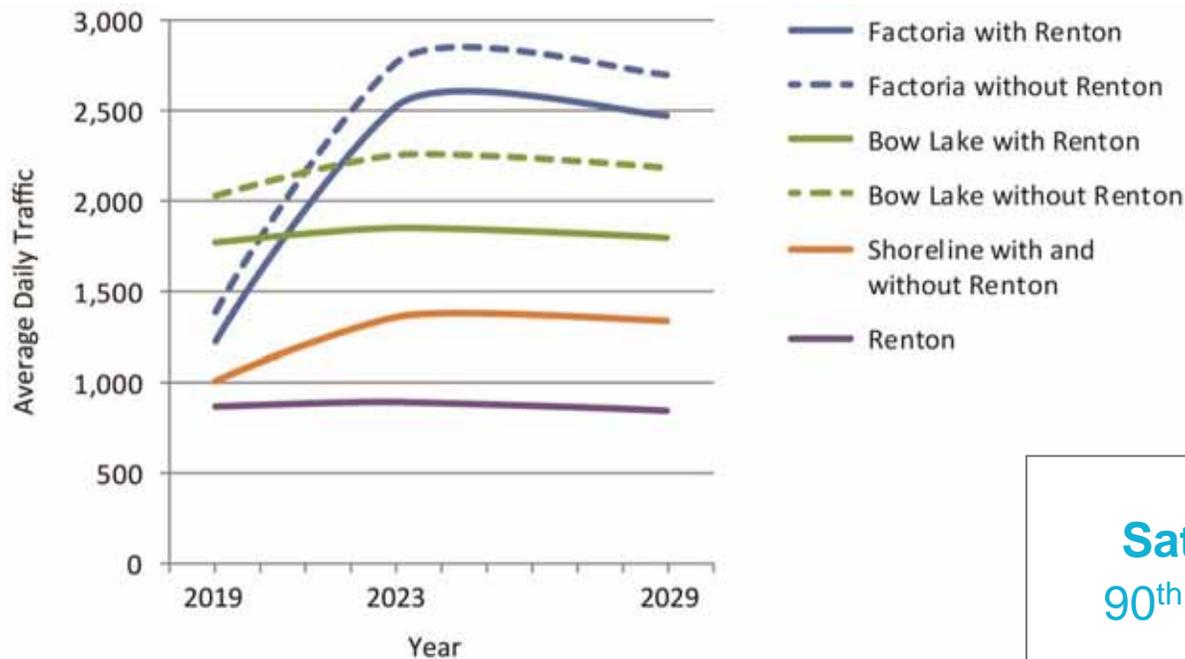


Similar data was collected at  
Bow Lake, Renton, Houghton and Factoria (existing station)

# TRIP GENERATION SUMMARY

## Trip generation updates:

- Previous forecasts that reflect shifts of traffic from one station to another have been updated to reflect a weighted average of the tons/vehicle based on the source of the material, not the characteristics of the destination station.
- Daily distribution at the Factoria station (Concept 2) has been updated to reflect the restriction of self-haul traffic during a portion of the day and extended weekday and weekend hours



**Concept 0**  
**Saturday (ADT) –**  
**90<sup>th</sup> Percentile Daily**  
**Peak**

# STATION EVALUATION CRITERIA

**Evaluation considers defined capacity, changes relative to Concept 0, and changes relative to existing conditions**

## **Vehicle Station Capacity definition:**

- Site capacity dependent on the composition of traffic (i.e. percentage of recycle, yard waste, HHW, self-haul, commercial haul trips)
- Queueing at inbound scale does not extend beyond critical points for each site (i.e. driveways, adjacent intersection, etc.)
- **Commercial service times: 16 minutes or less\*** (measured between inbound and outbound scales) – Reflects the impacts on on-site operations such as queueing and delay at the outbound scales
- **Self-haul service times: 30 minutes or less\*** (measured between inbound and outbound scales) – Reflects the impacts on on-site operations such as queueing and delay at the outbound scales

\* 90th percentile service times adopted in Solid Waste Transfer and Management Plan, December 2007.

# SUMMARY OF FINDINGS (2023 CONDITIONS)

- No constraints were identified at the Renton Station under any of the concepts
- Constraints identified at the Shoreline, Factoria, and Bow Lake stations, with or without the Renton Station open.

## SITE WITH RENTON

WEEKDAY				SITE	SATURDAY			
CONCEPT 0	CONCEPT 1	CONCEPT 2	CONCEPT 3		CONCEPT 0	CONCEPT 1	CONCEPT 2	CONCEPT 3
✓	✓	✓	✓	RENTON	✓	✓	✓	✓
✓	✓	✗	✓	SHORELINE	✗	✗	✗	✓
✗	✗	✗	✓	FACTORIA	✗	✗	✗	✓
✗	✗	✗	✗	BOWLAKE	✗	✗	✗	✗

## SITE WITHOUT RENTON

WEEKDAY				SITE	SATURDAY			
CONCEPT 0	CONCEPT 1	CONCEPT 2	CONCEPT 3		CONCEPT 0	CONCEPT 1	CONCEPT 2	CONCEPT 3
—	—	—	—	RENTON				
✓	✗	✗	✓	SHORELINE	✗	✗	✗	✓
✗	✗	✗	✗	FACTORIA	✗	✗	✗	✓
✗	✗	✗	✗	BOWLAKE	✗	✗	✗	✗

✓ Station forecasted to operate **at or below** targets as defined based on KC services time standards and queue lengths (Transfer Station Waste Management Plan 2007).

✗ Station forecasted to operate **below** targets as defined based on KC service time standards and queue lengths.

# SITE ASSESSMENTS AND EVALUATION OF IMPROVEMENT STRATEGIES

## Evaluation focused on key site operational performance measures

- Inbound and outbound queuing at the scalehouses
- Inbound queuing to the commercial and self-haul tipping floors
- Commercial and self-haul service times

## Two tier screening process for evaluating improvement strategies

- Tier 1 compares estimated peak-hour site capacity to anticipated traffic with implementation of each demand strategy (operational) or site improvement (physical)
- Tier 2 utilizes the VISSIM model to test combinations of strategies or improvements (compared to existing and Concept 0 conditions)

# EXAMPLE: SITE CONSTRAINTS (SERVICE TIMES) – FACTORIA WITHOUT RENTON (2023)

## SITE WITHOUT RENTON

		SATURDAY				
	TARGET	EXISTING	CONCEPT 0	CONCEPT 1	CONCEPT 2	CONCEPT 3
COMMERCIAL HAUL	16:00	15:00	23:00	23:00	23:00	15:00
SELF HAUL	30:00	22:00	54:00	54:00	49:00	25:00

		WEEKDAY				
	TARGET	EXISTING	CONCEPT 0	CONCEPT 1	CONCEPT 2	CONCEPT 3
COMMERCIAL HAUL	16:00	11:00	22:00	21:00	13:00	12:00
SELF HAUL	30:00	23:00	1:06:00	1:09:00	28:00	38:00

Target – Service times defined in Solid Waste Transfer and Management Plan, December 2007.

Existing – Represents 2014 volumes modeled with future station configuration.

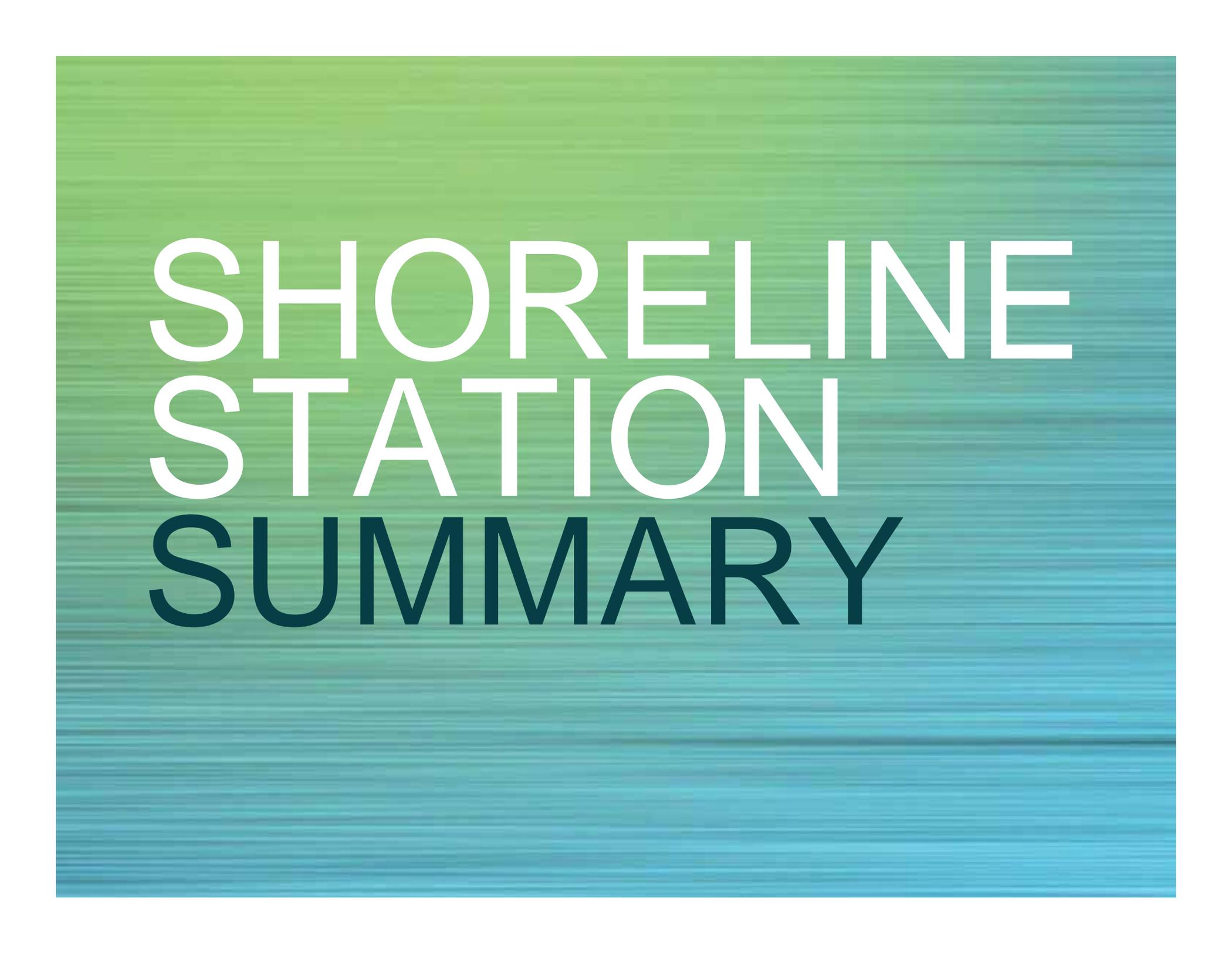
# EXAMPLE: CONCEPT 0 - MITIGATION STRATEGY SUMMARY (WITHOUT RENTON 2023)

<b>Peak Hour Capacity</b>		
Weekday:	67 vehicles/hr.	
Saturday:	100 vehicles/hr.	
<b>Unmitigated Peak Demand</b>		
Weekday:	131 vehicles/hr.	
Saturday:	171 vehicles/hr.	
<b>Unmitigated Peak Queue Length</b>		
Weekday:	131 vehicles	
Saturday:	184 vehicles	
<b>Unmitigated Peak Scale to Scale Time</b>		
	<b>SH</b>	<b>CM</b>
Weekday	1:06	0:22
Saturday	0:54	0:23
<b>Existing Peak Scale to Scale Time</b>		
	<b>SH</b>	<b>CM</b>
Weekday	0:23	0:11
Saturday	0:22	0:15

Mitigation Strategy	Vehicle Reduction	Mitigated Peak Hour Demands (Vehicles)	
		Weekday	Saturday
Extend Hours	4%	127	165
Provide Wait Time Info	1%	130	169
Bulky Collection	3.4%	127	166
Mandatory Collection	4%	127	165
Lower Regional Direct	0%	131	171
Ban Yard/Wood Waste	34%	95	118
Peak Pricing	15%	115	147
Higher Minimum Fee	20%	110	140
Drop Box (Southeast)	9%	121	157

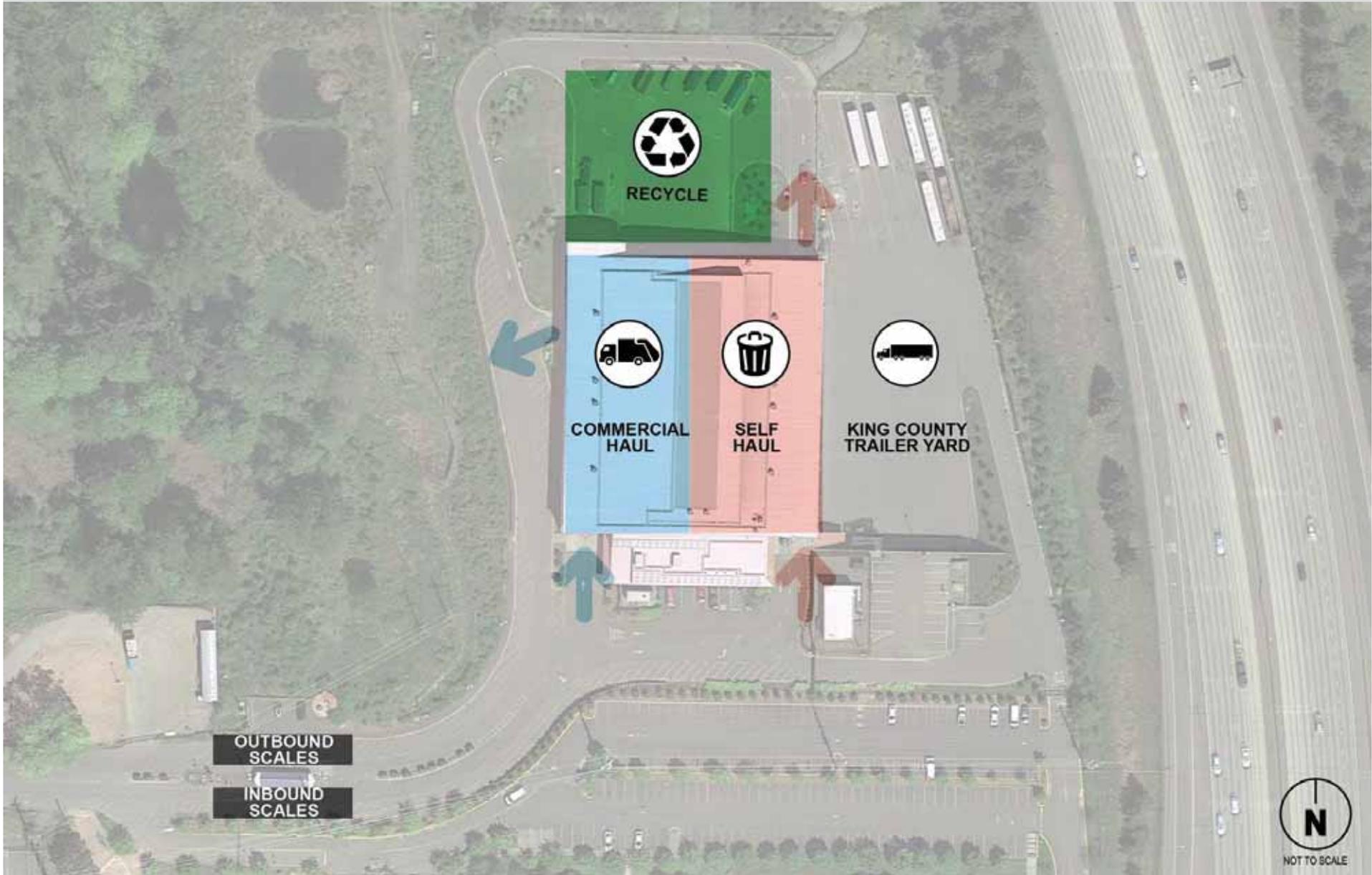
Other Potential Site Improvements:

- Second Outbound Scale
- Unloading Assistance
- Internal Queue Lane



SHORELINE  
STATION  
SUMMARY

# SHORELINE ON-SITE USES



# SITE CONSTRAINTS (QUEUING) – WITH RENTON (2023)

Capacity constraints on the commercial haul tipping floor and exiting scale house capacity result in on-site delays and queuing that exceed targeted values

### INBOUND CRITERIA QUEUE

**Green** – does not extend beyond first private driveway or closest intersection, whichever is the smallest value

**Red** – extends beyond first private driveway or closest intersection, whichever is the smallest value

### OUTBOUND QUEUE CRITERIA

**Green** – queue at scale does not impede station operations

**Yellow** – queue at scale impacts station operations, but station still functions

**Red** – queue at scale impacts station operations, resulting in gridlock on-site

### SITE WITH RENTON

### WEEKEND 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	← OUTBOUND QUEUE
c0	Green	Yellow	Green	Red
c1	Green	Red	Green	Red
c2	Green	Yellow	Green	Red
c3	Green	Green	Green	Green

### SITE WITH RENTON

### WEEKDAY 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	← OUTBOUND QUEUE
c0	Green	Green	Green	Green
c1	Green	Green	Green	Green
c2	Green	Green	Green	Yellow
c3	Green	Green	Green	Green

# SITE CONSTRAINTS (QUEUING) – WITHOUT RENTON (2023)

Capacity constraints on the commercial haul tipping floor and exiting scale house capacity result in on-site delays and queuing that exceed targeted values

### INBOUND CRITERIA QUEUE

**Green** – does not extend beyond first private driveway or closest intersection, whichever is the smallest value

**Red** – extends beyond first private driveway or closest intersection, whichever is the smallest value

### OUTBOUND QUEUE CRITERIA

**Green** – queue at scale does not impede station operations

**Yellow** – queue at scale impacts station operations, but station still functions

**Red** – queue at scale impacts station operations, resulting in gridlock on-site

## SITE WITHOUT RENTON WEEKEND 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	OUTBOUND QUEUE ←
c0	Green	Yellow	Green	Red
c1	Red	Red	Green	Red
c2	Green	Yellow	Green	Red
c3	Green	Green	Green	Green

## SITE WITHOUT RENTON WEEKDAY 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	OUTBOUND QUEUE ←
c0	Green	Green	Green	Green
c1	Green	Yellow	Green	Green
c2	Yellow	Green	Red	Red
c3	Green	Green	Green	Green

# SHORELINE STRATEGY COMBINATIONS – EVALUATION OVERVIEW

Strategy Combinations developed and tested for the following without Renton Station Scenarios

		Concept 0		Concept 1		Concept 2		Concept 3	
Strategy Combination		Wkdy	Sat	Wkdy	Sat	Wkdy	Sat	Wkdy	Sat
A1	Add 1 TSO/person on commercial floor	Not required	✓	✓	✓	✓	✓	Not required	
A2	Add 1 TSO/person on commercial floor + 2 <sup>nd</sup> outbound scale	Not required	✓	✓	✓	✓	✓	Not required	
B	Add 1 TSO/person on commercial floor + mandatory curbside collection	Not required	✓	✓	✓	✓	✓	Not required	

“Not required” – no modeling conducted as mitigation strategies are not needed to meet targeted performance levels (i.e. queuing and service times)

# SHORELINE STRATEGIES (COMBINATIONS)

## – WEEKDAY WITHOUT RENTON RESULTS (CONCEPT 0 - 2023)

Concept 0 Weekday Without Renton operates acceptably, as such, no mitigation strategies required

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	35	17:00	13:00	1
Concept 0	58	18:00	13:00	3

1. Results of calibrated model, based on data collected in September 2014.
2. Measured scale to scale.
3. Intersection of Meridian Ave N / N 165th St located approximately 15 vehicles from the scale.

# SHORELINE STRATEGIES (COMBINATIONS)

## – SATURDAY WITHOUT RENTON RESULTS (CONCEPT 0 - 2023)

### Combination A

- A1 – Add 1 TSO/person on commercial floor
- A2 – Add 1 TSO/person on commercial floor + outbound scale

**Combination B** – Add 1 TSO/person on commercial floor + mandatory curbside collection

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	49	18:00	12:00	2
Concept 0	88	29:00	23:00	6
Concept 0 + Combination A1	88	29:00	20:00	4
Concept 0 + Combination A2	88	17:00	12:00	4
Concept 0 + Combination B	77	22:00	15:00	4

1. Results of calibrated model, based on data collected in September 2014.
2. Measured scale to scale.
3. Intersection of Meridian Ave N / N 165th St located approximately 15 vehicles from the scale.

# SHORELINE STRATEGIES (COMBINATIONS)

## – WEEKDAY WITHOUT RENTON RESULTS (CONCEPT 1 - 2023)

### Combination A

- A1 – Add 1 TSO/person on commercial floor
- A2 – Add 1 TSO/person on commercial floor + outbound scale

**Combination B** – Add 1 TSO/person on commercial floor + mandatory curbside collection

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	35	17:00	13:00	1
Concept 1	67	20:00	18:00	3
Concept 1 + Combination A1	67	20:00	15:00	3
Concept 1 + Combination A2	67	17:00	13:00	3
Concept 1 + Combination B	60	19:00	15:00	3

1. Results of calibrated model, based on data collected in September 2014.
2. Measured scale to scale.
3. Intersection of Meridian Ave N / N 165th St located approximately 15 vehicles from the scale.

# SHORELINE STRATEGIES (COMBINATIONS)

## – SATURDAY WITHOUT RENTON RESULTS (CONCEPT 1 - 2023)

### Combination A

- A1 – Add 1 TSO/person on commercial floor
- A2 – Add 1 TSO/person on commercial floor + outbound scale

**Combination B** – Add 1 TSO/person on commercial floor + mandatory curbside collection

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	49	18:00	12:00	2
Concept 1	96	35:00	26:00	46
Concept 1 + Combination A1	96	37:00	22:00	7
Concept 1 + Combination A2	96	17:00	12:00	6
Concept 1 + Combination B	84	27:00	20:00	5

1. Results of calibrated model, based on data collected in September 2014.
2. Measured scale to scale.
3. Intersection of Meridian Ave N / N 165th St located approximately 15 vehicles from the scale.

# SHORELINE STRATEGIES (COMBINATIONS)

## – WEEKDAY WITHOUT RENTON RESULTS (CONCEPT 2 - 2023)

### Combination A

- A1 – Add 1 TSO/person on commercial floor
- A2 – Add 1 TSO/person on commercial floor + outbound scale

**Combination B** – Add 1 TSO/person on commercial floor + mandatory curbside collection

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	35	17:00	13:00	1
Concept 2	99	38:00	25:00	11
Concept 2 + Combination A1	99	38:00	23:00	11
Concept 2 + Combination A2	99	19:00	13:00	8
Concept 2 + Combination B	86	28:00	21:00	5

1. Results of calibrated model, based on data collected in September 2014.
2. Measured scale to scale.
3. Intersection of Meridian Ave N / N 165th St located approximately 15 vehicles from the scale.

# SHORELINE STRATEGIES (COMBINATIONS)

## – SATURDAY WITHOUT RENTON RESULTS (CONCEPT 2 - 2023)

### Combination A

- A1 – Add 1 TSO/person on commercial floor
- A2 – Add 1 TSO/person on commercial floor + outbound scale

**Combination B** – Add 1 TSO/person on commercial floor + mandatory curbside collection

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	49	18:00	12:00	2
Concept 2	88	29:00	23:00	6
Concept 2 + Combination A1	88	29:00	20:00	4
Concept 2 + Combination A2	88	17:00	12:00	4
Concept 2 + Combination B	77	22:00	15:00	4

1. Results of calibrated model, based on data collected in September 2014.
2. Measured scale to scale.
3. Intersection of Meridian Ave N / N 165th St located approximately 15 vehicles from the scale.

# SHORELINE STRATEGIES (COMBINATIONS) – WITHOUT RENTON RESULTS (CONCEPT 3 - 2023)

Concept 3 operates acceptably so no mitigation strategies required

## Combination A

- A1 – Add 1 TSO/person on commercial floor
- A2 – Add 1 TSO/person on commercial floor + outbound scale

**Combination B** – Add 1 TSO/person on commercial floor + mandatory curbside collection

## WEEKDAY

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	36	23:00	11:00	1
Concept 3	46	18:00	13:00	2

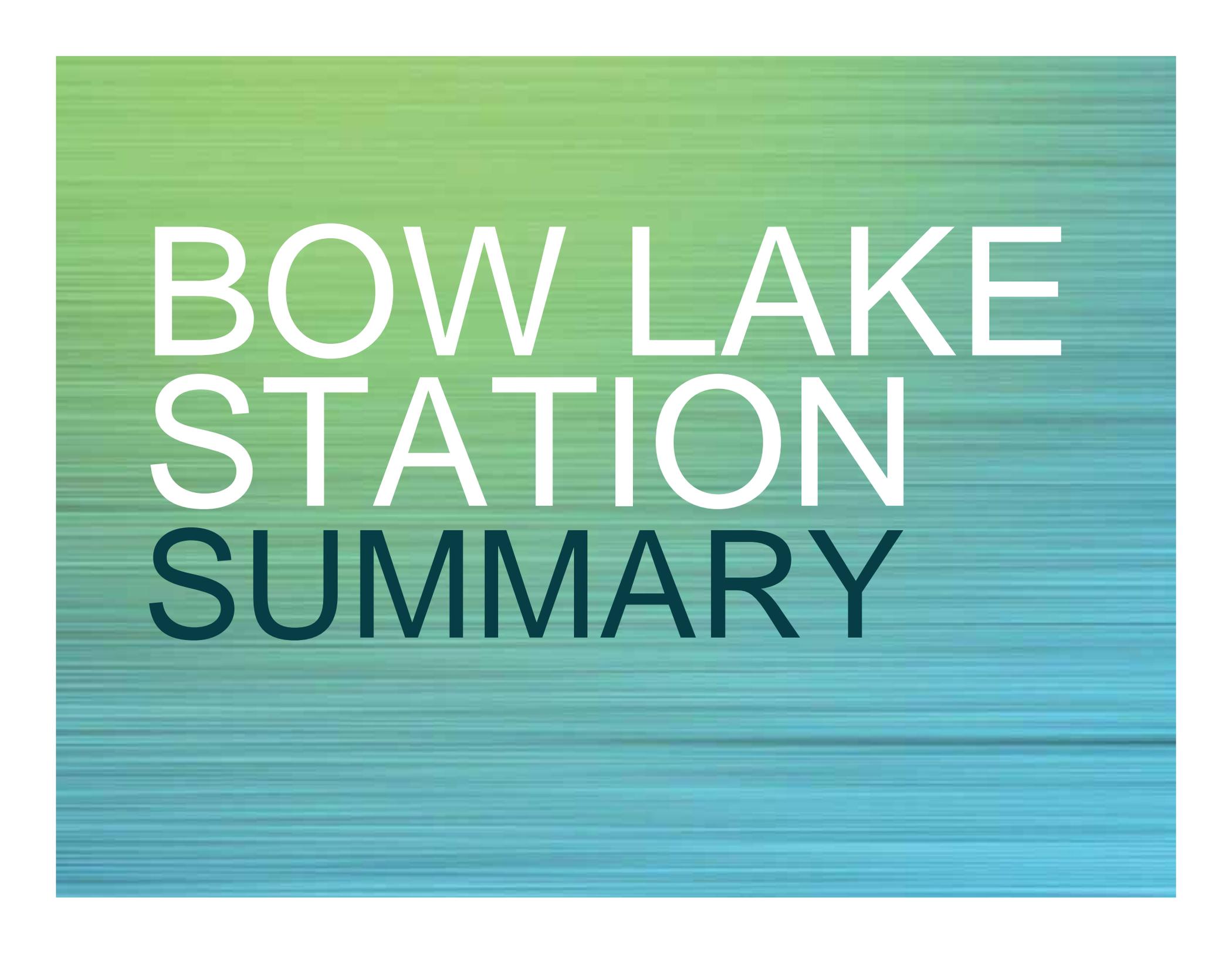
## SATURDAY

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	46	22:00	15:00	1
Concept 3	69	19:00	14:00	2

1. Results of calibrated model, based on data collected in September 2014.
2. Measured scale to scale.
3. Intersection of Meridian Ave N / N 165th St located approximately 15 vehicles from the scale.

# SHORELINE STATION SUMMARY

- Constraints (with or without Renton) of...
  - outbound queues
  - commercial tipping floor
- Results in...
  - longer commercial and self-haul service times than today, but near adopted standards



**BOW LAKE  
STATION  
SUMMARY**

# BOW LAKE ON-SITE USES



# SITE CONSTRAINTS (QUEUEING) – WITH RENTON (2023)

Capacity constraints on the inbound scale

### INBOUND CRITERIA QUEUE

**Green** – does not extend beyond first private driveway or closest intersection, whichever is the smallest value

**Red** – extends beyond first private driveway or closest intersection, whichever is the smallest value

### OUTBOUND QUEUE CRITERIA

**Green** – queue at scale does not impede station operations

**Yellow** – queue at scale impacts station operations, but site still functions

**Red** – queue at scale impacts station operations, resulting in gridlock on-site

## SITE WITH RENTON WEEKEND 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	← OUTBOUND QUEUE
c0	●	●	●	●
c1	●	●	●	●
c2	●	●	●	●
c3	●	●	●	●

## SITE WITH RENTON WEEKDAY 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	← OUTBOUND QUEUE
c0	●	●	●	●
c1	●	●	●	●
c2	●	●	●	●
c3	●	●	●	●

# SITE CONSTRAINTS (QUEUEING) – WITHOUT RENTON (2023)

## Capacity constraints on the inbound scale

### INBOUND CRITERIA QUEUE

**Green** – does not extend beyond first private driveway or closest intersection, whichever is the smallest value

**Red** – extends beyond first private driveway or closest intersection, whichever is the smallest value

### OUTBOUND QUEUE CRITERIA

**Green** – queue at scale does not impede station operations

**Yellow** – queue at scale impacts station operations, but site still functions

**Red** – queue at scale impacts station operations, resulting in gridlock on-site

## SITE WITHOUT RENTON WEEKEND 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	OUTBOUND QUEUE ←
c0	Red	Green	Green	Green
c1	Red	Green	Green	Green
c2	Red	Green	Green	Green
c3	Red	Green	Green	Green

## SITE WITHOUT RENTON WEEKDAY 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	OUTBOUND QUEUE ←
c0	Red	Green	Green	Green
c1	Red	Green	Green	Green
c2	Red	Green	Green	Green
c3	Red	Green	Green	Green

# BOW LAKE STRATEGY COMBINATIONS

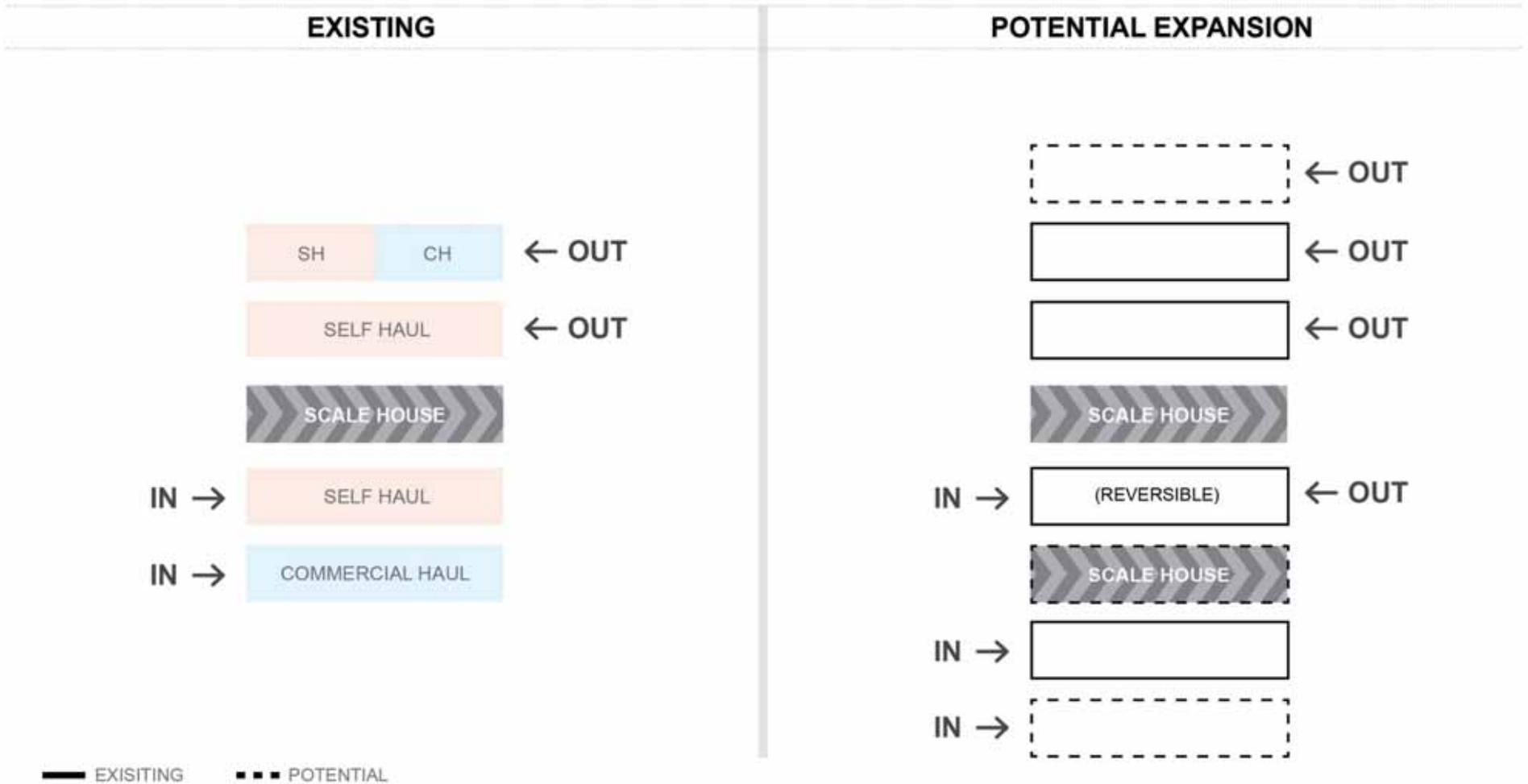
## – EVALUATION OVERVIEW

Strategy Combinations developed and tested for the following without Renton Station Scenarios

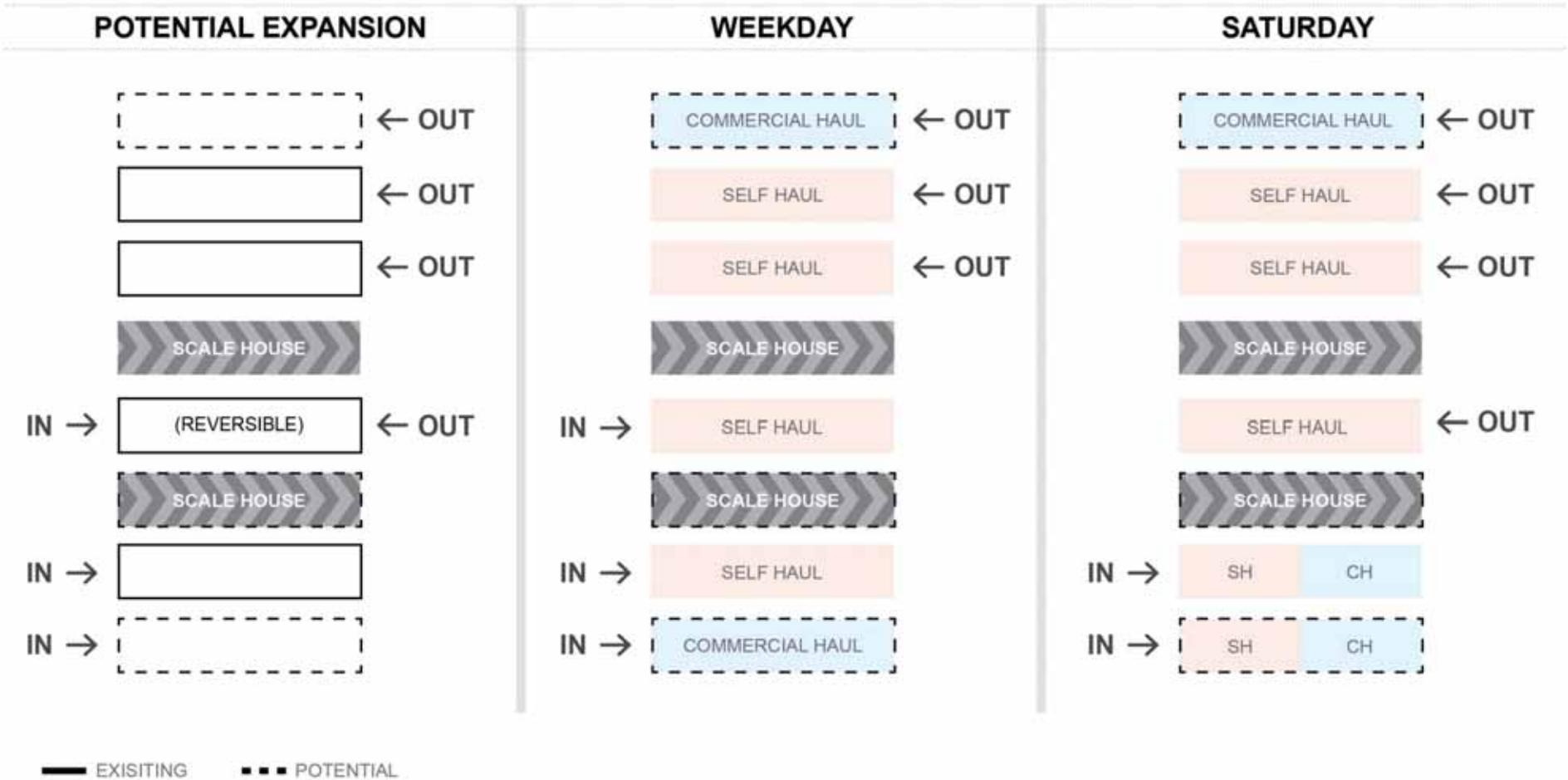
		Concept 0		Concept 1		Concept 2		Concept 3	
Strategy Combination		Wkdy	Sat	Wkdy	Sat	Wkdy	Sat	Wkdy	Sat
A	Add Inbound Scale	✓	✓	Not modeled - Similar to Concept 0					
B1	Add Inbound Scale + Outbound Scale	✓	✓	Not modeled - Similar to Concept 0					
B2	Add Inbound Scale + Outbound Scale + Outbound Queue Pocket	✓	✓	Not modeled - Similar to Concept 0					

“Not required” – no modeling conducted as mitigation strategies are not needed to meet targeted performance levels (i.e. queuing and service times)

# BOW LAKE COMBINATION B SCALE CONFIGURATION



# BOW LAKE COMBINATION B – SCALE CONFIGURATION WEEKDAY AND WEEKEND OPERATIONS



# BOW LAKE STRATEGIES (COMBINATIONS)

## – WEEKDAY WITHOUT RENTON RESULTS (CONCEPT 0 - 2023)

**Combination A** – Additional Inbound Scale

**Combination B** –

- B1 – Additional Inbound Scale, additional outbound scale
- B2 – Additional Inbound Scale, additional outbound scale, outbound queue pocket

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	52	26:00	13:00	2
Concept 0	115	29:00	22:00	98
Concept 0 + Combination A	115	57:00	45:00	4
Concept 0 + Combination B1	115	45:00	31:00	3
Concept 0 + Combination B2	115	35:00	17:00	3

1. Measured scale to scale

2. Intersection of S 188th St / Orilla Rd S located approximately 32 vehicles from the scale.

Concepts 1, 2, and 3 would have similar results to Concept 0 with the same strategies applied.

# BOW LAKE STRATEGIES (COMBINATIONS)

## – SATURDAY WITHOUT RENTON RESULTS (CONCEPT 0 - 2023)

**Combination A** – Additional Inbound Scale

**Combination B** –

- B1 – Additional Inbound Scale, additional outbound scale
- B2 – Additional Inbound Scale, additional outbound scale, outbound queue pocket

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>1</sup>		Inbound Queue <sup>2</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	65	27:00	13:00	3
Concept 0	145	27:00	18:00	205
Concept 0 + Combination A	145	1:10:00	52:00	52
Concept 0 + Combination B1	145	36:00	26:00	7
Concept 0 + Combination B2	145	28:00	13:00	6

1. Measured scale to scale

2. Intersection of S 188th St / Orilla Rd S located approximately 32 vehicles from the scale.

Concepts 1, 2, and 3 would have similar results to Concept 0 with the same strategies applied.

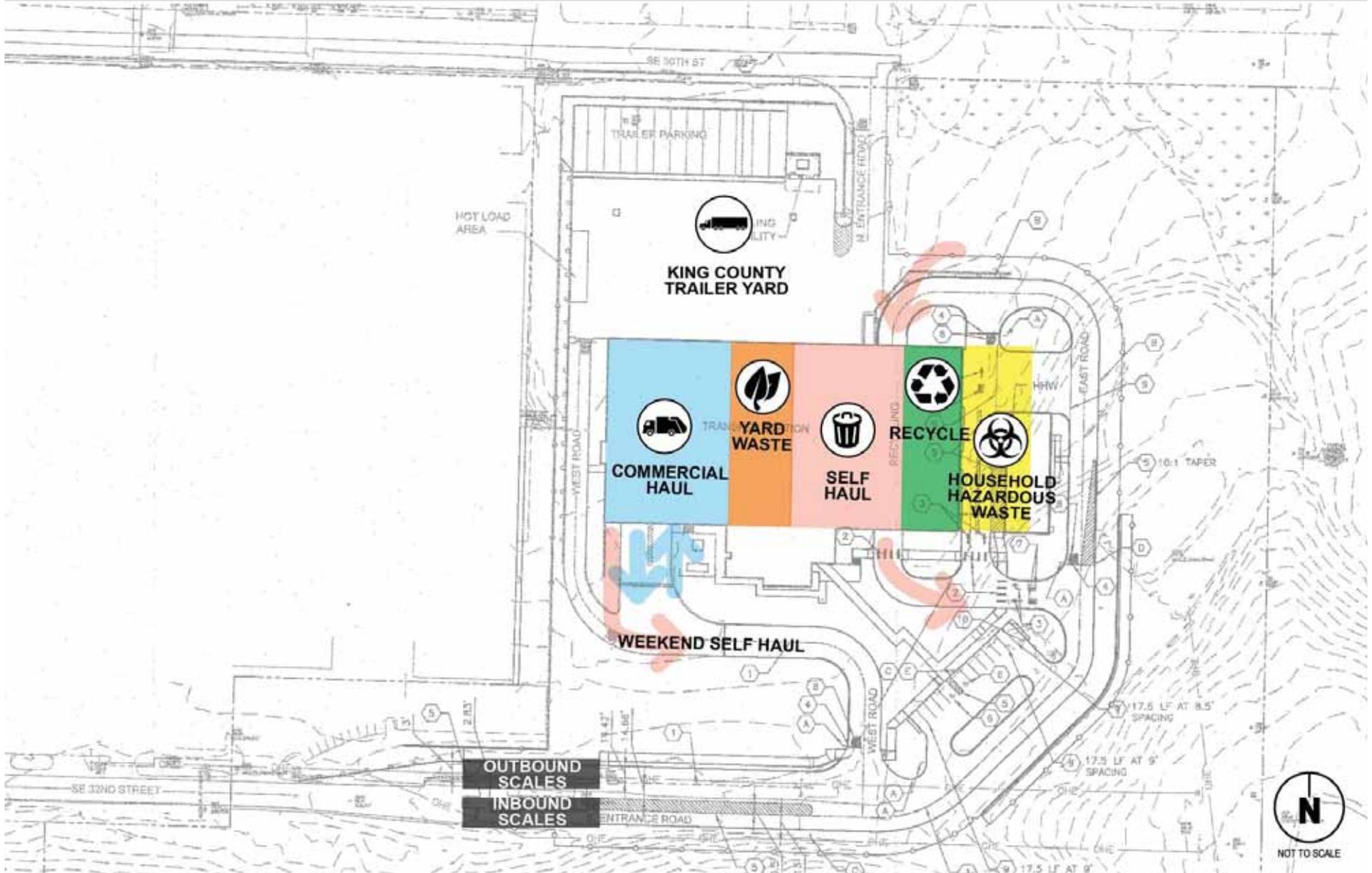
# BOW LAKE STATION SUMMARY

- Peak hour demand is similar under all Concepts.
- Constraints of...
  - inbound scale
- Results in...
  - inbound queues well beyond the intersection at Orillia Road
  - longer commercial and self-haul service times



FACTORIA  
STATION  
SUMMARY

# FACTORIA ON-SITE USES



# SITE CONSTRAINTS (QUEUING) – WITH RENTON (2023)

Capacity constraints on the self-haul tipping floor results in long service times and queuing on 32nd Street and Richards Road (weekday and Saturdays).

### INBOUND CRITERIA QUEUE

**Green** – does not extend beyond first private driveway or closest intersection, whichever is the smallest value

**Red** – extends beyond first private driveway or closest intersection, whichever is the smallest value

### OUTBOUND QUEUE CRITERIA

**Green** – queue at scale does not impede station operations

**Yellow** – queue at scale impacts station operations, but site still functions

**Red** – queue at scale impacts station operations, resulting in gridlock on site

## SITE WITH RENTON WEEKEND 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	← OUTBOUND QUEUE
c0	Red	Green	Red	Yellow
c1	Red	Green	Red	Yellow
c2	Red	Green	Red	Yellow
c3	Green	Green	Green	Green

## SITE WITH RENTON WEEKDAY 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	← OUTBOUND QUEUE
c0	Red	Green	Red	Yellow
c1	Red	Green	Red	Yellow
c2	Green	Green	Yellow	Yellow
c3	Green	Green	Green	Green

# SITE CONSTRAINTS (QUEUING) – WITHOUT RENTON (2023)

Capacity constraints on the self-haul tipping floor results in long service times and queuing on 32nd Street and Richards Road (weekday and Saturdays).

## INBOUND CRITERIA QUEUE

**Green** – does not extend beyond first private driveway or closest intersection, whichever is the smallest value

**Red** – extends beyond first private driveway or closest intersection, whichever is the smallest value

## OUTBOUND QUEUE CRITERIA

**Green** – queue at scale does not impede station operations

**Yellow** – queue at scale impacts station operations, but site still functions

**Red** – queue at scale impacts station operations, resulting in gridlock on site

## SITE WITHOUT RENTON WEEKEND 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	← OUTBOUND QUEUE
c0	Red	Green	Red	Yellow
c1	Red	Green	Red	Yellow
c2	Red	Green	Red	Yellow
c3	Green	Green	Green	Green

## SITE WITHOUT RENTON WEEKDAY 1 HR PEAK VOLUME

CONCEPT	INBOUND QUEUE →	COMMERCIAL HAUL TIPPING FLOOR QUEUE	SELF HAUL TIPPING FLOOR QUEUE	← OUTBOUND QUEUE
c0	Red	Green	Red	Yellow
c1	Red	Green	Red	Yellow
c2	Green	Green	Yellow	Yellow
c3	Green	Green	Yellow	Green

# FACTORIA STRATEGY COMBINATIONS

## – EVALUATION OVERVIEW

		Concept 0		Concept 1		Concept 2		Concept 3	
Strategy Combination		Wkdy	Sat	Wkdy	Sat	Wkdy	Sat	Wkdy	Sat
A	Extend hours + peak pricing	✓	✓	Not modeled Concept 0		Integral to the Concept		Not required	
B1	Unloading assistance + higher minimum fee	✓	✓	Not modeled		Not modeled		Not required	
B2	Unloading assistance + higher minimum fee + second scale	✓	✓	Not modeled		Not modeled		Not required	
C2	Ban yard/wood waste + mandatory collection + bulky waste collection + second outbound scale	✓	✓	Not modeled		✓	✓	Not required	
D	Removal of HHW + increased on-site vehicle queuing space	Not modeled		Not modeled		✓	✓	Not required	

“Not required” – no modeling conducted as mitigation strategies are not needed to meet targeted performance levels (i.e. queuing and service times)

“Not modeled” – evolution based on results from concepts with similar peak hour demand estimates.

# FACTORIA STRATEGIES (COMBINATIONS) – WEEKDAY WITHOUT RENTON RESULTS (CONCEPT 0 - 2023)

**Combination A** – Extend hours, peak pricing

**Combination B**

- B1 – Unloading assistance, higher minimum fee
- B2 – Unloading assistance, higher minimum fee, additional outbound scale

**Combination C**

- C1 – Ban yard/wood waste, mandatory collection, curbside bulky waste collection
- C2 – Ban yard/wood waste, mandatory collection, curbside bulky waste collection, additional outbound scale

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	36	23:00	11:00	1
Concept 0	131	1:06:00	22:00	131
Concept 0 + Combination A	84	38:00	12:00	3
Concept 0 + Combination B1	110	51:00	17:00	39
Concept 0 + Combination B2	110	52:00	16:00	35
Concept 0 + Combination C1	89	25:00	13:00	3
Concept 0 + Combination C2	89	23:00	11:00	2

1. Existing conditions reflects the configuration of the planned station and 2014 volumes observed.
2. Measured scale to scale.
3. First driveway located approximately 10 vehicles from the scale. Richards Road intersection located approximately 60 vehicles from scale.

Concept 1 would have similar results to Concept 0 with the same strategies applied.

# FACTORIA STRATEGIES (COMBINATIONS) – SATURDAY WITHOUT RENTON RESULTS (CONCEPT 0 - 2023)

**Combination A** – Extend hours, peak pricing

**Combination B**

- B1 – Unloading assistance, higher minimum fee
- B2 – Unloading assistance, higher minimum fee, additional outbound scale

**Combination C**

- C1 – Ban yard/wood waste, mandatory collection, curbside bulky waste collection
- C2 – Ban yard/wood waste, mandatory collection, curbside bulky waste collection, additional outbound scale

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	46	22:00	15:00	1
Concept 0	171	54:00	23:00	184
Concept 0 + Combination A	110	41:00	20:00	6
Concept 0 + Combination B1	140	50:00	29:00	48
Concept 0 + Combination B2	140	29:00	16:00	11
Concept 0 + Combination C1	109	32:00	20:00	5
Concept 0 + Combination C2	109	23:00	15:00	4

1. Existing conditions reflects the configuration of the planned station and 2014 volumes observed.
2. Measured scale to scale.
3. First driveway located approximately 10 vehicles from the scale. Richards Road intersection located approximately 60 vehicles from scale.

Concept 1 would have similar results to Concept 0 with the same strategies applied.

# FACTORIA STRATEGIES (COMBINATIONS)

## – WEEKDAY WITHOUT RENTON RESULTS (CONCEPT 2 - 2023)

**Combination C** – Ban yard/wood waste, mandatory collection, curbside bulky waste collection

**Combination D** – Added internal queuing (expanded entry lane and repurpose of HHW area), second inbound lane along SE 32<sup>nd</sup> St, and HHW banned

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	36	23:00	11:00	1
Concept 2	110	28:00	13:00	4
Concept 2 + Combination C	73	23:00	12:00	2
Concept 2 + Combination D	104	30:00	13:00	3

- Existing conditions reflects the configuration of the planned station and 2014 volumes observed.
- Measured scale to scale.
- First driveway located approximately 10 vehicles from the scale. Richards Road intersection located approximately 60 vehicles from scale.

# FACTORIA STRATEGIES (COMBINATIONS)

## – SATURDAY WITHOUT RENTON RESULTS (CONCEPT 2 - 2023)

**Combination C** – Ban yard/wood waste, mandatory collection, curbside bulky waste collection

**Combination D** – Added internal queuing (expanded entry lane and repurpose of HHW area), second inbound lane along SE 32<sup>nd</sup> St, and HHW banned

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	46	22:00	15:00	1
Concept 2	127	49:00	23:00	58
Concept 2 + Combination C	82	22:00	15:00	3
Concept 2 + Combination D	126	1:06:00	22:00	7

- Existing conditions reflects the configuration of the planned station and 2014 volumes observed.
- Measured scale to scale.
- First driveway located approximately 10 vehicles from the scale. Richards Road intersection located approximately 60 vehicles from scale.

On-site service times increases with combination D due to the delay time being captured on-site and not off-site.

# FACTORIA STRATEGIES (COMBINATIONS) –WITHOUT RENTON RESULTS (CONCEPT 3 - 2023)

Concept 3 operates acceptably so no mitigation strategies required

## WEEKDAY

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	36	23:00	11:00	1
Concept 3	71	38:00	12:00	2

## SATURDAY

Improvement/Strategy	Peak Hour Demand (inbound trips)	Service Times <sup>2</sup>		Inbound Queue <sup>3</sup>
		Self-Haul	Commercial Haul	
Existing <sup>1</sup>	46	22:00	15:00	1
Concept 3	93	25:00	15:00	3

- Existing conditions reflects the configuration of the planned station and 2014 volumes observed.
- Measured scale to scale.
- First driveway located approximately 10 vehicles from the scale. Richards Road intersection located approximately 60 vehicles from scale.

# FACTORIA STATION SUMMARY

- Constraints of...
    - self-haul tipping floor
  - Results in...
    - longer commercial and self-haul service times
    - queuing on 32nd Street and Richards Road
- (weekdays, Saturdays, with and without Renton)

# On-line Self-Haul Customer Survey

- Consultant (Cascadia) developed questions
- Used Survey Monkey
- Link on website and fliers at transfer stations
- Survey open Nov. 17 through Jan. 11
- Focus on Factoria, Houghton, and Renton
- ~550 responses
- Cascadia preparing final report

## WE WANT TO HEAR FROM YOU!

Do you use the Houghton Transfer Station to dispose of garbage, yard waste or recyclables? How frequently? If the facility were to permanently close, how would you be affected?

**We need your feedback to make decisions about changes to King County transfer station system.**

Take 5 to 7 minutes to complete our Transfer Station User Survey:

<https://www.surveymonkey.com/s/HoughtonTS>

**Questions?**  
Please contact the King County Solid Waste Division at 206-477-4466  
M-F, 8:30 a.m. - 4:30 p.m.  
TTY Relay: 711

Alternative Formats On Request

206-477-4466  
TTY Relay: 711  
1-800-325-6165 ext. 7-4466



## QUEREMOS SABER DE USTED

¿Utiliza la Estación de Transferencia de Houghton para desechar su basura, desechos de jardín y artículos reciclables? ¿Con qué frecuencia? Si esta estación de transferencia fuera cerrada permanentemente ¿cómo lo afectaría a usted?

**Ayúdenos a transformar el sistema de la estación de transferencia de King County participando en nuestra encuesta que le tomara 10 minutos.**

Para participar en la encuesta, favor de llamar a la División de Desechos Sólidos de King County at 206-477-4466 de lunes a viernes 8:30 a.m. a 4:30 p.m.  
TTY Relay: 711

Formatos alternativos en aplicación

206-477-4466  
TTY Relay: 711  
1-800-325-6165 ext. 7-4466



# Self-Haul Customer Profile

- Self-haulers bring garbage and recyclables that are not collected at the curb to the transfer stations
- Self-haulers can be residents or from a wide-range of businesses
- About 90 percent of self-haulers are single-family residents
- Most self-haulers use the transfer stations on weekends
- Most self-haulers are bringing large amounts of waste, e.g., from remodeling or cleaning up their home or yard, or items that are too large to fit in their curbside can
- About 40 percent of urban system self-haulers pay the per load minimum fee of \$22
- Most self-haulers have curbside collection at their home or business

# On-line Self-Haul Survey: Factoria

- ~130 responses
- 83 percent residential, 16 percent business
- 94 percent have garbage service at their home or business
- Reasons for self-hauling
  - Construction, remodeling, or demolition debris – 54 percent
  - Household hazardous waste – 54 percent
  - Garbage from a special clean-up, move, party, or other infrequent event – 51 percent
- How frequently
  - Every two to three months – 26 percent
  - Two to three times per year – 30 percent
- Most important factors when choosing a transfer station
  - Geographic location – 81 percent
  - Days and hours of operation – 42 percent

# On-line Self-Haul Survey: Renton

- ~ 155 responses
- 92 percent residential, 8 percent business
- 84 percent have garbage service at their home or business
- Reasons for self-hauling
  - Garbage from a special clean-up, move, party, or other infrequent event – 66 percent
  - Cardboard recycling – 63 percent
  - Construction, remodeling, or demolition debris – 59 percent
- Most important factors when choosing a transfer station
  - Geographic location – 90 percent
  - Days and hours of operation – 45 percent
- If Renton closed?
  - Use Factoria – 47 percent
  - Use Bow Lake – 17 percent
- How satisfied with this alternative?
  - Very dissatisfied – 70 percent
  - Somewhat dissatisfied – 21 percent

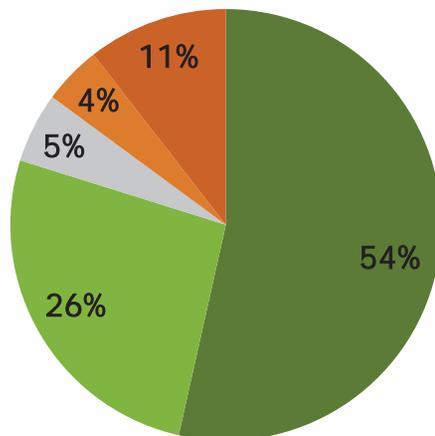
# On-line Self-Haul Survey: Houghton

- ~ 230 responses
- 80 percent residential, 20 percent business
- 92 percent have garbage service at their home or business
- Reasons for self-hauling
  - Garbage from a special clean-up, move, party, or other infrequent event – 67 percent
  - Construction, remodeling, or demolition debris – 65 percent
  - Bulky items discarded infrequently, such as furniture or appliances – 55 percent
- Most important factors when choosing a transfer station
  - Geographic location – 90 percent
  - Days and hours of operation – 40 percent
- If Houghton closed?
  - Use Factoria – 47 percent
  - Use Shoreline – 13 percent
- How satisfied with this alternative?
  - Very dissatisfied – 59 percent
  - Somewhat dissatisfied – 24 percent

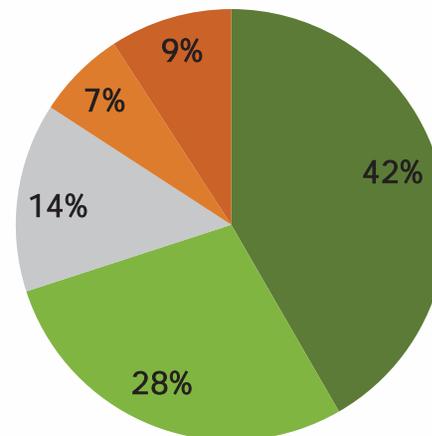
# On-line Self-Haul Survey: Houghton

*Replacing the Houghton Transfer Station with a new, nearby facility would require increasing transfer station fees. Would you be willing to pay:*

*\$2 more per trip for the minimum fee,  
\$8 more per ton for larger loads*



*\$5 more per trip for the minimum fee,  
\$15 more per ton for larger loads*



- Definitely yes
- Maybe yes
- Not sure
- Maybe no
- Definitely no

# Commercial Hauler Survey

- Closing transfer stations will increase cost of curbside collection due to longer distance/more travel time
  - Costs are labor, fuel, vehicle maintenance, shorter vehicle life, and additional collection vehicles
- Longer lines and wait times at transfer stations are a concern
- Interest in extended hours
  - Factoria to 6 or 7 p.m. (or even later) and Bow Lake 24 hours on weekends
- Most collection vehicles use CNG
- Additional regional direct waste would be redirected from Bow Lake, Algona, and Renton transfer stations
- Interest in discussing a different bulky waste collection system

# Discussion

# Comments and Questions

- Comment form
  - Any thoughts about this review that you would like to share before we draft the report?
- Questions?
  - Contact Diane Yates  
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