RTM3.7 Release

new information, new tools

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Modeling & Forecasting

April 25, 2025

Demographics Growth Projections updated to 2021 Census

- Medium growth
  - reflects higher immigration targets than current policy
- Pre-legislation scenario (No Bill 44/47)

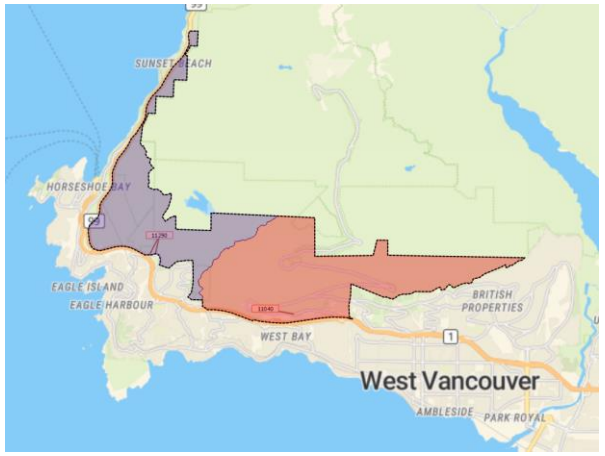
	RTM 3.6	RTM 3.7
Baseline data	2016 Census	2021 Census
Horizon years	2017, 2035, 2050	2023, 2033, 2043, 2053
Zone System	TAZ 1700	TAZ 1709

https://metrovancouver.org/services/regional-planning/Documents/metro-vancouver-growth-projections-2024-update.pdf

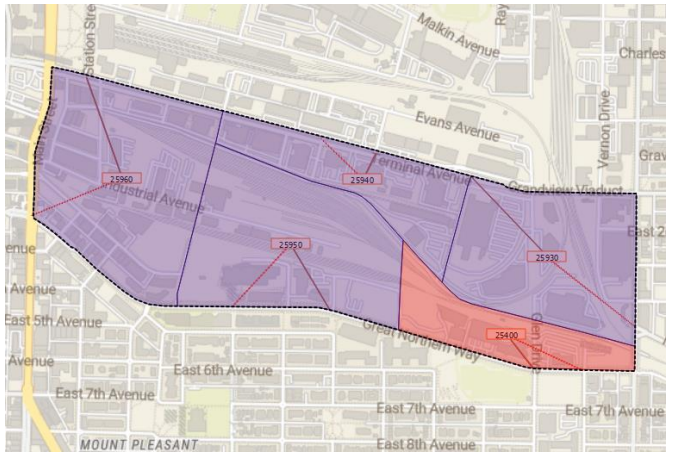
Splitting demand to improve network loading

- align traffic analysis zone boundary with natural/geographic features
  - mountain
  - railways
  - highways
- one SkyTrain station per TAZ

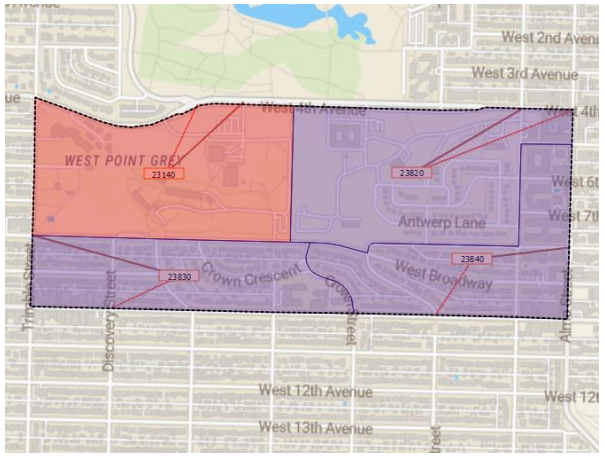
Cypress Village vs Cypress Park



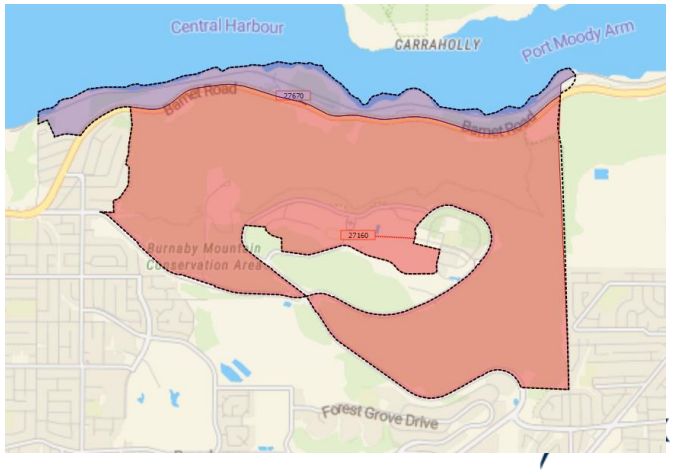
Main St vs Great Northern Way Station



UBCx – Potential Future Stations



BMG vs Barnet Marine Park



Improve accuracy, minimize noise

- Comprehensive review using OpenStreetMap data
  - new signalized intersections
  - recent constructions
- Eliminate node/link attribute mismatch between horizon years to reduce noise in network comparison
- Future transit networks based off 2023 GTFS

Bus Operation Procedures in Dedicated Lanes

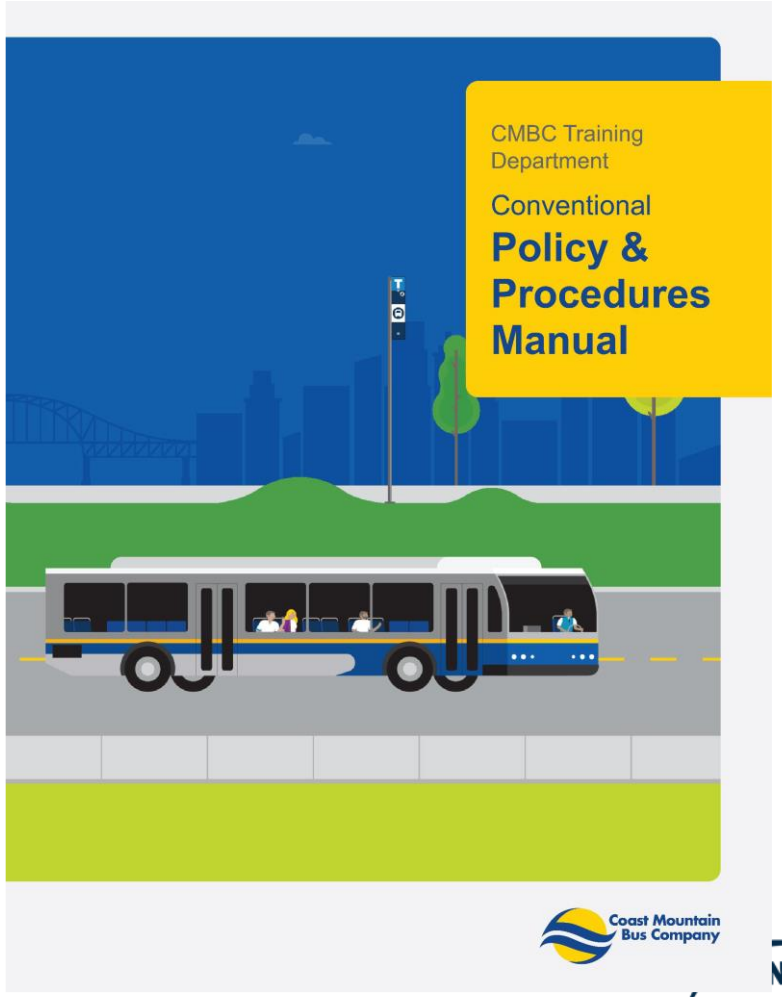
"When travelling in lanes including Reserved or HOV lanes next to slow moving or stationary traffic (other than parked vehicles) Operators must reduce speed."

Transit Travel Time Function (ttf 2)

bus speed = min(max(auto speed + 20, minimum bus speed), posted speed)

Auto Speed	Posted Speed					
	100	90	80	70	60	50
10	60	60	50	50	40	30
20	60	60	50	50	40	40
30	60	60	50	50	50	50
40	60	60	60	60	60	50
50	70	70	70	70	60	50
60	80	80	80	70	60	
70	90	90	80	70		
80	100	90	80			
90	100	90				
100	100					

<< minimum bus speed



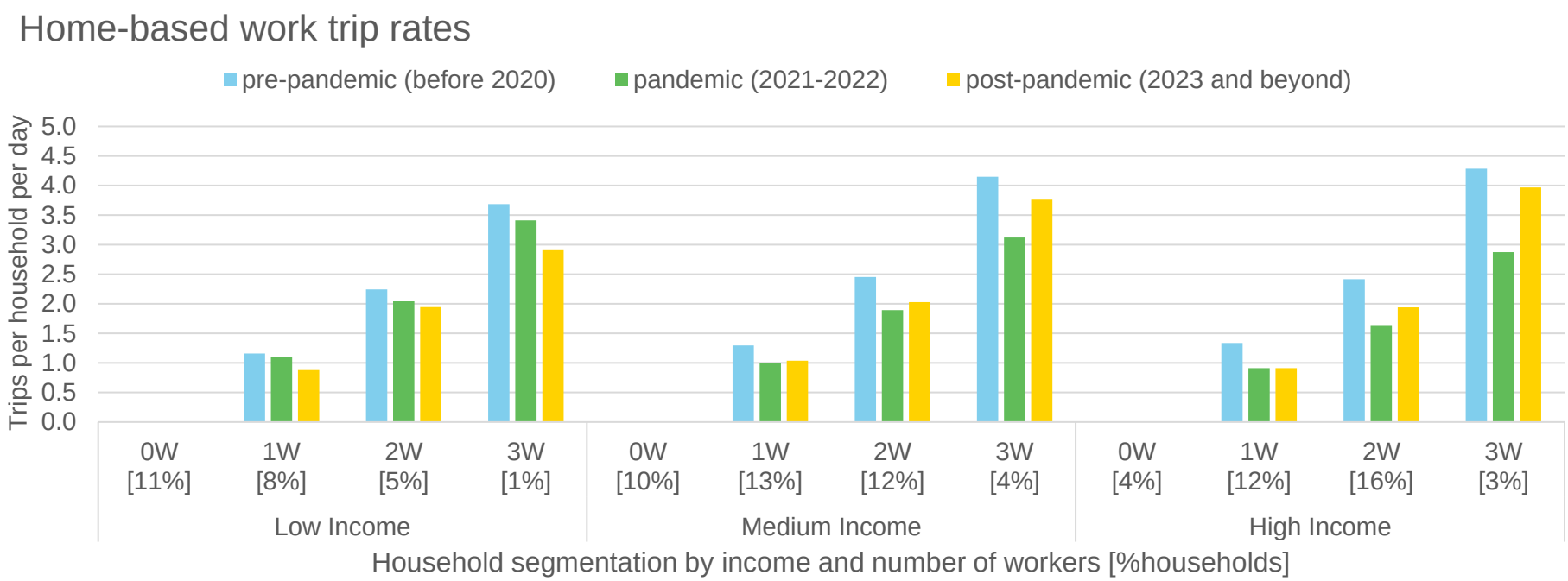
Post-Pandemic Travel Behaviour

	Pre-Pandemic Before 2020	Pandemic 2021-2022	Post-Pandemic 2023 and Beyond
RTM version	RTM 3.0-3.5	RTM 3.6	RTM 3.7
Baseline data	2011 Trip Diary	Transit ridership & limited screenline data	2017/2023 Trip Diary
Propensity for Vehicle Ownership	No	Yes	No
Transit Aversion	No	Yes	No
Telecommuting	No	Yes	Yes

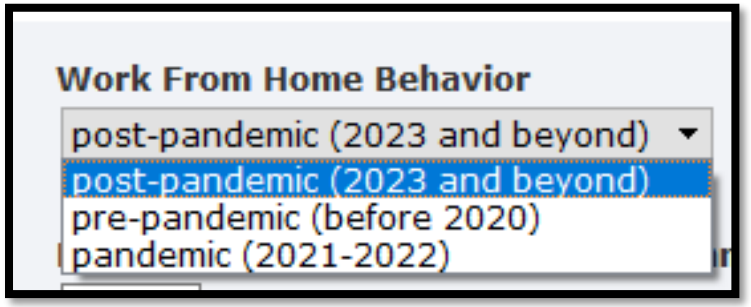
*For more information on pandemic adjustment, see presentation from 2024 User Group Meeting.

Office attendance stabilizing below pre-pandemic level

- Population growth (13%) is outpacing the increase in work commute trips (2.7%), as more people are working from home – reducing the demand for traditional commuting.
- Aging population



Commuting Travel Behavior Adjustment



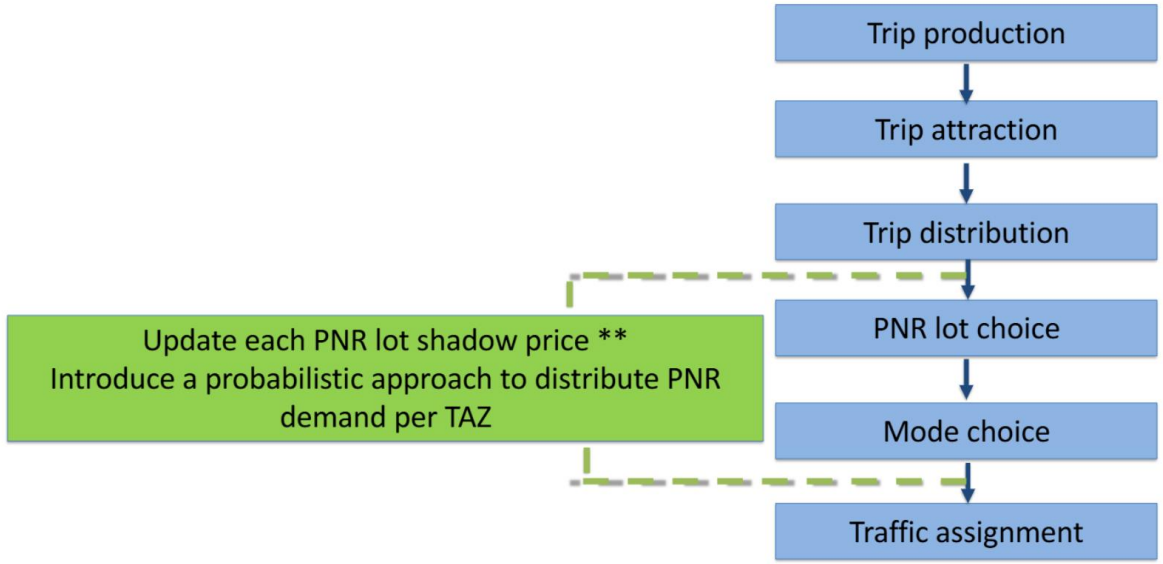
Select commuting behaviour assumptions in drop down menu

	A	B	C	D	E	F
1	mat_id	mat_name	mat_desc	post-pandemic (2023 and beyond)	pre-pandemic (before 2020)	pandemic (2021-2022)
2	ms1020	hbwprd_1-1	hbwprd_1-1	0.88	1.16	1.09
3	ms1021	hbwprd_2-1	hbwprd_2-1	1.94	2.24	2.04
4	ms1022	hbwprd_3-1	hbwprd_3-1	2.91	3.69	3.41
5	ms1023	hbwprd_1-2	hbwprd_1-2	1.04	1.30	1.00
6	ms1024	hbwprd_2-2	hbwprd_2-2	2.03	2.46	1.89
7	ms1025	hbwprd_3-2	hbwprd_3-2	3.76	4.15	3.12
8	ms1026	hbwprd_1-3	hbwprd_1-3	0.91	1.34	0.91
9	ms1027	hbwprd_2-3	hbwprd_2-3	1.94	2.42	1.63
10	ms1028	hbwprd_3-3	hbwprd_3-3	3.97	4.29	2.87
11	ms1030	c_hbw_CM	c_hbw_CM	1.46	1.46	1.46
12	ms1031	c_hbw_TW	c_hbw_TW	1.18	1.18	1.18
13	ms1032	c_hbw_BOS	c_hbw_BOS	0.81	1.56	1.20
14	ms1033	c_hbw_FIRE	c_hbw_FIRE	1.26	1.62	1.24
15	ms1034	c_hbw_Ret	c_hbw_Ret	0.59	0.59	0.59
16	ms1035	c_hbw_AFIC	c_hbw_AFIC	1.29	1.29	1.29
17	ms1036	c_hbw_HEPA	c_hbw_HEPA	1.30	1.30	1.30
18	ms1202	hbw_asc_bus	hbw_asc_bus		-0.16	-0.59
19	ms1204	hbw_asc_rail	hbw_asc_rail		1.66	1.23
20	ms1206	hbw_asc_wce	hbw_asc_wce		3.20	2.78
21	ms1212	hbu_asc_bus	hbu_asc_bus		2.77	2.34
22	ms1213	hbu_asc_rail	hbu_asc_rail		4.11	3.69
23	ms1218	hbsch_asc_bus	hbsch_asc_bus		-4.51	-4.94
24	ms1219	hbsch_asc_rail	hbsch_asc_rail		-5.23	-5.65

RTM\BaseNetworks\Inputs\pandemic_adjustment_factors.csv

Enhance park and ride market assessment tool

- Problem: parking lot usage is not constrained by capacity, closing a parking lot will result in unrealistic loading to adjacent lots
- Address the problem:
  - Distribute demand to ~~one~~ best lots
  - Constrain parking lot utilization through shadow pricing
- Default off, recommended for Park and Ride studies



** stop when overflown lot demand matches the capacity

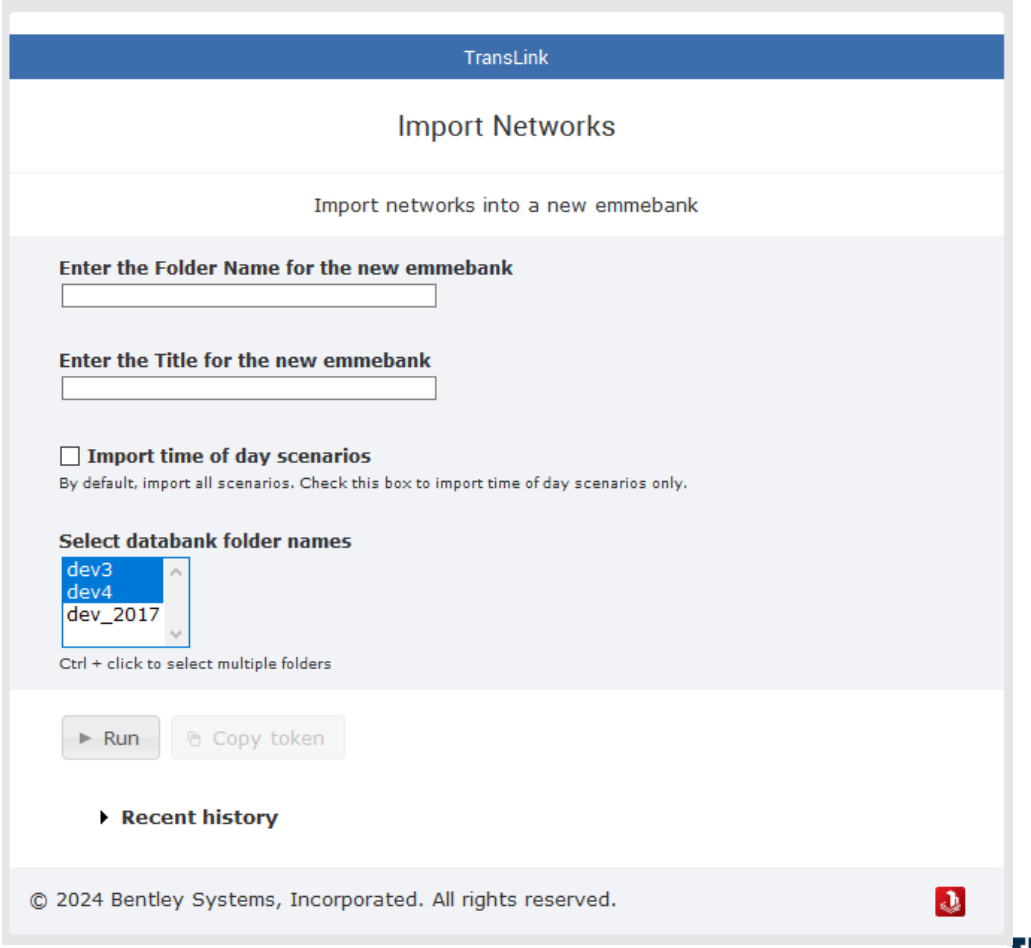
*For more information, see presentation from 2024 User Group Meeting.

Compare networks, lots of them

create a new databank to host project scenarios for comparison analysis

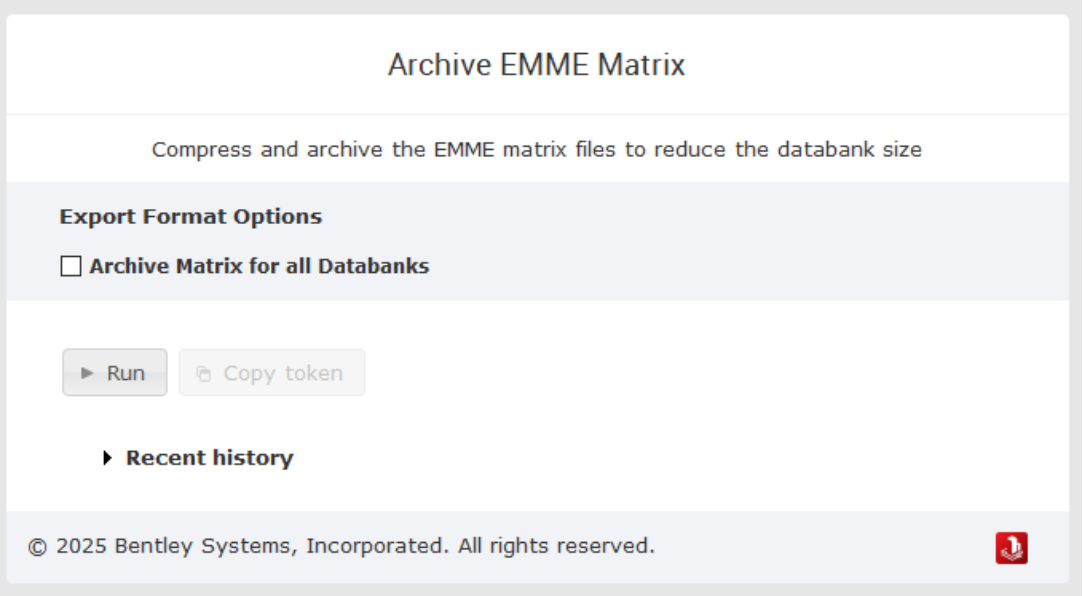
option to import assigned networks only or everything

multi-select databanks in the project folder to be imported



Compress databanks, lots of them

- 8GB → 4GB per databank
- network results are available in archived version
- unzip emmebank folder to access EMME matrices



Transition to Bentley

OpenPaths™ EMME®

- version 25.00.00
- Python 3.7 → Python 3.11
- ⚠ run notebook cells one at a time

New Python version distributed with OpenPaths EMME

OpenPaths EMME 2024 is distributed with Python 3.11, which is the default Python Path for Modeller (*Tools* → *Application Options* → *Python Path*).

There are several quality-of-life improvements with Python 3.11, namely a faster Python (compared to Python 3.10). See what else is new in Python 3.11 on the Python.org site [2].

In Notebook, due to an incompatibility with the latest version of **ipykernel** with Python 3.11, which may cause cells to be run in an arbitrary order when using any of the *Run All* commands when the notebook is run interactively, the *Run All* commands (*Run All*, *Run All Below*, *Run All Above*) have been deactivated from the Notebook *Cell* menu. Cells may be run one at a time when running the notebook. Note that running the notebook from within a python script did not have this issue.

[2] *https://python.org*

RTM 3.7

- understand how people & goods move in this region
- support data driven planning and decision making