Intermediate outputs (source frequency): - stacked data BB (both directions, counts and minutes).csv - Merged flows DB ALL HEADERS.csv Increase frequency of Border crossings report for Nov aggregation level? 2022, Dec 2022 & Jan 2023 Crickmay: Trucks GPS data 3-hour -> daily -> monthly? (PDF) (1 excel file) 1-hour frequency information on the number of trucks that crossed the border and time to cross the border statistics: median, 10th and Internal consistency: 90th percentiles for both directions:SA-> ZIM and ZIM-> SA. Averages and sums of total Data cleaning: missing values, number of trucks crossing the outliers, covid/lockdown data border per day & month spans . Time aggregates per 3-hour ranges, per day & month Analysis: 1.Correlations between truck counts (DONE in excel file: toll road and gps External validity (2) Truck types External validity (1) Merged both data sources on a daily comparison.xlsx) Collection points 1. Compare Dec 2022 and Nov 2022 (lowest frequency) and montghly 1. Inter-sources consistency: for the 2. Relashioship between counts and fata with offifical monthly report on Statistics for time-related variables aggregate levels. number of trucks for daily and monthly time estimates (Little's Law) (TBC) Counts of trucks are border crossing performance (report by Directions (Northbound, 3. LOESS/LOWESS regressions for aggregates summed, statistics for Crickmay?) southbound or best time variables and counts time indicators include: min. max. (TBC) median, mean, Data cleaning: missing Internal consistency: values, outliers, number of trucks going to the covid/lockdown data spans same direction between two 3-hour frequency, counts of trucks passing Check if Road = Sum of both locations? Optimal aggregation by specific collection points of the toll road. level and statistics to make sure dirctions for each type of • Notebook/code: Reference data Directions for each collection point: the numbers from both truck Northbound:Beithbridge, Southbound: locations are similar? • Notebook/code: Reference data comparison (to share) Part 2 comparison (to share) Part 3.ipynb Musina, Road (total); 4 different types of (heatmaps).ipynb • Jan 2023 merged.csv vehicles: light, medium, heavy HV (see • daily agg Crickmay - correlate time and volume.csv Nov 2022 merged.csv categorization of trucks in email exchange) • monthly agg Crickmay - correlate time and volume.csv Dec 2022 merged.csv Toll road: POC 3201 & 3202 (2 excel files) Increase frequency of the aggregation levels? 3-hour -> daily -> monthly? **Diagram Key** Process & analysis

Data source (inputs)

Result of a merge

Oecision point +intermediate result

Outputs (notebook + results: tables, visualizations)

Notebook/Code: Reference data comparison (to share) Part 1.ipynb

Tables of intermediate results: daily and monthly aggregates

Vizulazations: T-S charts, correlations scatterplots, heatmaps - see notebooks