

Metrics

The tab **Metrics** at the top of BlueARGUS refers to Travel Time Reliability (TTR), which is how you quantify the time involved in day to day traffic (e.g. commuters). There are three (3) main components of TTR:

1. Travel Time Index (TTI)
2. Buffer Time Index (BTI)
3. Planning Time Index (PTI)

TRAVEL TIME INDEX

The Travel Time Index (TTI) represents the comparison between the actual travel conditions compared to free flow conditions, represented in a ratio format. It is the expected congestion faced by a commuter on a daily basis.

For example, a travel time index of 1.50 means that a trip that takes 20 minutes in light traffic conditions, will take 30 minutes (50% more time) under congested operating conditions such as rush hour traffic

Travel Time Index = Average Travel Time / Travel Time Under Light Traffic Conditions

Example: Travel Time Under Light Traffic Conditions = 20 minutes

Average Travel Time (data pulled from BlueTOAD devices) = 26 minutes

Travel Time Index = 26 minutes / 20 minutes = 1.30 TTI

BUFFER TIME INDEX

Once we have determined the TTI using BlueTOAD data, we can determine the volatility of the commute by calculating the Buffer Time Index (BTI). Buffer Time Index (BTI) represents the EXTRA time (or time cushion) that travelers must add to their average travel time when planning trips to ensure on-time arrival by accounting for “worst case” scenarios (90% or 95% travel time from BlueTOAD data).

For example, a buffer index of 1.40 means that for a trip that usually takes 20 minutes, a traveler should budget an additional eight (8) minutes (40% more time) to ensure on-time arrival 95% of the time

Average travel time = 20 minutes

Buffer index = 40%

Buffer time = 20 minutes × 0.40 = 8 minutes of ADDITIONAL TIME

PLANNING TIME INDEX

Planning Time Index (PTI) represents the TOTAL time that a traveller should allow to ensure on-time arrival 90% or 95% of the time. It is the sum of the time calculated for every day traffic (from TTI) and for “worst case” 90% /

95% data (from BTI). For example, a Planning Time Index of 1.60 means that for a trip that takes 15 minutes in light traffic, a traveler should budget a total of 24 minutes to ensure on-time arrival 95 percent of the time.

Free-flow travel time = 15 minutes

Planning time index = 1.60

Planning time = 15 minutes \times 1.60 = 24 minutes TOTAL TRAVEL TIME

Time from TTI + Time from BTI = Time from PTI

[How to create a scheduled report](#)

[How to create a travel time reliability report](#)

How to create a travel time reliability report

1. select the route/pair of interest
2. set the **Free Flow Speed** (typically the speed limit or speed limit +5mph)
3. select the **Date Range**, **Days of Week** (the default is "All"), and **Time Period**
4. select the interval to display data in, how to group data sets, and **Confidence Percentage** (90% or 95%) for the Planning Time Index

[Metrics](#)

[How to create a travel time reliability comparison report](#)
