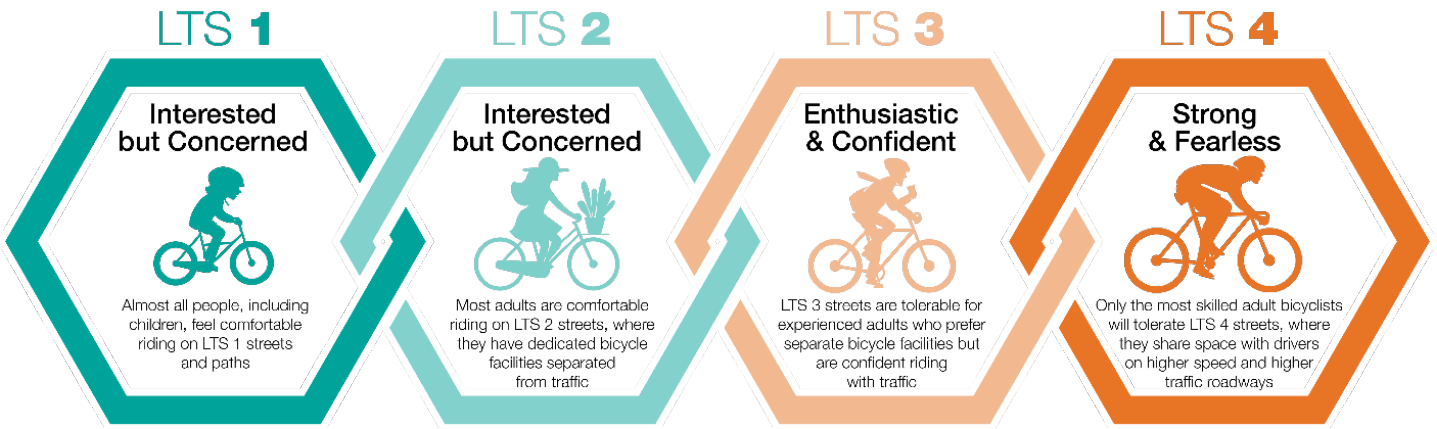
BACKGROUND MAP DESCRIPTIONS

Bicycle Level of Stress from Automobiles (Traffic Stress Analysis):

Bicycle Level of Traffic Stress (LTS) quantifies the stress level of a given roadway segment for biking. It considers a variety of criteria, including street width (number of lanes), speed limit or prevailing speed, presence and width of bike lanes, and the presence and width of parking lanes.

LTS is designated with a 1 through 4 score, with 1 providing the most comfort and 4 providing the least comfort. Generally, LTS score of 1 indicates the roadway provides a stress level tolerable by small children, and a LTS score of 4 indicates a stress level tolerable by only the strong and fearless of cyclists.

For purposes of this analysis, LTS scores of 1-2 denote a low stress experience while LTS scores of 3-4 denote a high stress experience. As such, the goal is to achieve connectivity of the low-stress network among all key points of interest within the corridor. By maximizing connectivity of the low-stress network, a greater proportion of the population who are willing and open to biking (60%) may consider using a bike for given trip rather than driving.

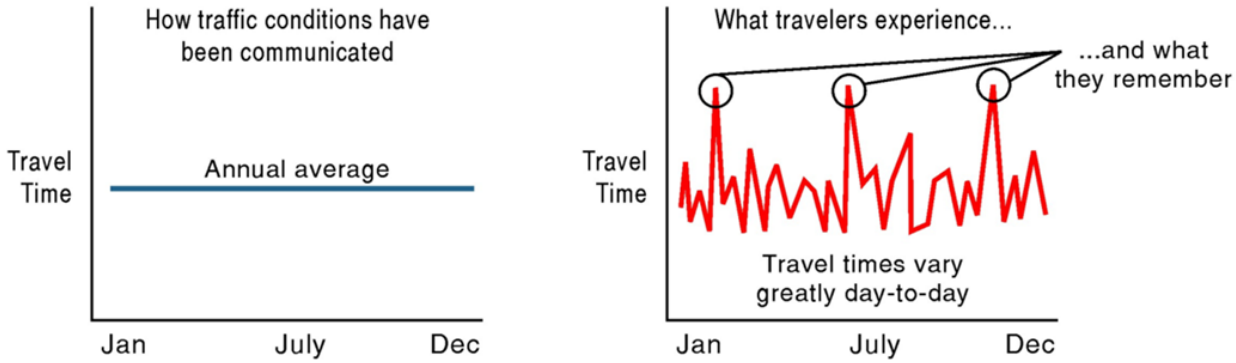


Traffic Congestion and Reliability of Travel Time (Travel Time Reliability):

An increasingly important transportation performance metric advocated at both the federal and state levels is travel time reliability. The predictability of travel time can be critical for commuters, goods movement, and transit providers. Travel times vary from one day to the next because conditions influencing traffic differ each day. The seven sources of congestion that influence travel time reliability are:

- Fluctuations in normal travel;
- Physical bottlenecks;
- Special events;
- Traffic incidents;
- Inclement weather;
- Traffic-control devices;
- Work zones.

The Figure below illustrates the emphasis on travel time reliability (to minimize disruptions and to improve predictability), and how travel time reliability influences travelers.



There are several measures available to determine travel time reliability. In this analysis, we have used the average free-flow travel time as the average time ($t_{ff(avg)}=t_{avg}$) and we have used the 95th percentile observed travel time from the data sets to determine Buffer Time Index (BTI).

$$BTI = \frac{t_{95th} - t_{ff(avg)}}{t_{ff(avg)}}$$

A commonly accepted classification of reliability that is used for the analysis of reliability for the SR 29 Corridor is shown below. Based on 12 months of vehicle speed data from the National Performance Monitoring Research Data Set (Federal Highway Administration), the travel time reliability characteristics of the SR 29 Corridor were analyzed.

Reliability Ranking using Buffer Time Index (BTI)

	Reliable	Moderately Reliable	Unreliable
BTI	<0.25	0.25<BTI<0.50	>0.50