**GLOSSARY**

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| **Term** | **Definition** |
| traffic map area / region of interest | Spatial area included in the procured traffic maps |
| gt\_image\_raw | Original screenshot from Google Traffic before it has been segmented to identify traffic color categories, construction and emergency symbols, excluded tiles, and background pixels in the image.  \* Format: png; units are pixels |
| **INPUTS** | |
| *Datasets* | |
| gt\_image\_cat | Segmented image containing every pixel in the image assigned one of 9 categories/numbers: 1 (maroon), 2 (red), 3 (orange), 4 (green), 5 (gray), 6 (construction markers), 7 (emergency response /firetruck markers), 8 (not sampled; excluded tiles), 9 (background; pixels that do not change color).  \* Format: png; units are pixels. |
| gt\_geo\_projected | Geotiff from a specific traffic map area / region of interest that has been georeferenced and projected in QGIS. Serves as reference for performing spatial joins and setting raster extents.  \* Format: raster with lat/long (EPSG:4326 / WGS84)  \* Layers: gt for that captured\_datetime |
| polygons\_of\_interest | The polygons that Google Traffic colors will be aggregated within. Each unique area of interest (e.g., each census tract) should have a unique identifier (called the poly\_id).  \* Format: Shapefile, can have any projection |
| *Non-Function Objects* | |
| poly\_id\_var | Name of the variable within polygons\_of\_interest shapefile that contains the unique identifier (poly\_id) for each polygon. The poly\_ids themselves must be coercible to numeric.  \* Type: string |
| base\_date | The base or start datetime for the desired time series  \* Type: string with the following format: YYYY/MM/DD HH:MM |
| end\_date | The end datetime for the desired time series  \* Type: string with the following format: YYYY/MM/DD HH:MM |
| gt\_dir | The file path / directory where segmented gt\_image\_cats are stored  \* Type: string |
| x\_path | The file path / directory where an object is located. x corresponds to the object whose file path is being specified (e.g., ‘polygons\_of\_interest\_path’)  \* Type: string |
| x\_output\_path | The file path / directory and filename to save an object with. x corresponds to the object to be saved (e.g., ‘poly\_matrix\_output\_path’)  \* Type: string |
| method | Method that the get\_gt\_agg\_timeseries will use to aggregate pixel counts within poly\_ids. Takes on one of two values: ‘parallel’ or ‘forloop’. Parallel uses parallelization to recruit multiple cores for processing. Forloop uses a forloop and a single core for processing.  \* Type: string |
| sampling\_quantity\_units\_direction |  |
| timezone |  |
| **INTERMEDIATES** | |
| *Datasets* | |
| gt\_extent | Raster extent of gt\_geo\_projected  \* Format: Extent |
| gt\_matrix\_cat | Matrix form of a gt\_image\_cat  \* Format: matrix |
| gt\_raster\_unprojected | Raster form of a gt\_image\_cat, converted from gt\_matrix\_cat and then georeferenced using gt\_extent  \* Format: raster with lat/long (unprojected)  \* Layers: gt for that captured\_datetime |
| polygons\_of\_interest\_wgs84 | A version of polygons\_of\_interest that has been set to have a CRS of WGS84.  \* Format: Simple features, CRS = WGS84 |
| poly\_gt\_crosswalk | Raster of polygons\_of\_interest with the same dimensions and resolution of gt\_raster\_unprojected.   * Format: raster with lat/long * Layers: poly\_id |
| poly\_matrix | Matrix of polygons\_of\_interest with the same dimensions as gt\_raster\_unprojected and gt\_matrix\_unprojected   * Format: matrix |
| captured\_datetime\_vector | Vector of datetimes (posixct) that will be included in the generated timeseries (e.g., gt\_agg\_timeseries)   * Format: vector |
| captured\_datetime\_vector\_formatted | Vector of datetimes that will be included in the generated timeseries (e.g., gt\_agg\_timeseries) that has been reformatted to match the filenames of the gt\_image\_cats   * Format: vector |
| captured\_datetime\_vector\_filename | The name of the captured\_datetime\_vector\_formatted vector   * Format: vector |
| *Columns* | |
| gt\_cat | Column containing the ordinal number for the category of traffic color for each pixel, e.g., if visually we saw three pixels as [maroon, red, green], gt\_cat would be [1,2,4]  \* Type: integer, can only hold the values of 1-9 |
| **OUTPUTS** | |
| *Datasets* | |
| gt\_agg\_timeseries | Dataframe resulting from aggregating gt\_cat over the polygons of interest, collected across the captured\_datetimes of interest.  \* Format: csv  \* Rows: one per captured\_datetime/poly\_id combination  \* Columns: poly\_id, gt\_pixcount\_maroon, gt\_pixcount\_red, gt\_pixcount\_orange, gt\_pixcount\_green, gt\_pixcount\_gray, gt\_pixcount\_construction, gt\_pixcount\_emergency, gt\_pixcount\_notsampled, gt\_pixcount\_background, gt\_pixcount\_tot, captured\_datetime |
| *Columns* | |
| poly\_id | Unique identifier for each polygon in polygons\_of\_interest  \* Type: integer or character |
| gt\_pixcount\_maroon | Count of pixels whose value == 1 in gt\_image\_cat; maroon pixels on traffic map  \* Type: integer |
| gt\_pixcount\_red | Count of pixels whose value == 2 in gt\_image\_cat; red pixels on traffic map  \* Type: integer |
| gt\_pixcount\_orange | Count of pixels whose value == 3 in gt\_image\_cat; orange pixels on traffic map  \* Type: integer |
| gt\_pixcount\_green | Count of pixels whose value == 4 in gt\_image\_cat; green pixels on traffic map  \* Type: integer |
| gt\_pixcount\_gray | Count of pixels whose value == 5 in gt\_image\_cat; gray pixels on traffic map, indicating not enough data to assign a color  \* Type: integer |
| gt\_pixcount\_construction | Count of pixels whose value == 6 in gt\_image\_cat; pixels indicating a construction icon on the traffic map  \* Type: integer |
| gt\_pixcount\_emergency | Count of pixels whose value == 7 in gt\_image\_cat; pixels indicating an emergency response icon on the traffic map  \* Type: integer |
| gt\_pixcount\_notsampled | Count of pixels whose value == 8 in gt\_image\_cat; pixels that are part of an area that was not sampled – could be an excluded tile – on the traffic map  \* Type: integer |
| gt\_pixcount\_background | Count of pixels whose value == 9 in gt\_image\_cat; pixels that do not change color over time in the traffic map  \* Type: integer |
| gt\_pixcount\_tot | Total number of pixels within a particular polygon, regardless of value  \* Type: integer |
| captured\_datetime | The date and time the original traffic map screenshot was taken  \* Type: string with the following format: MMDDYYHHMM |