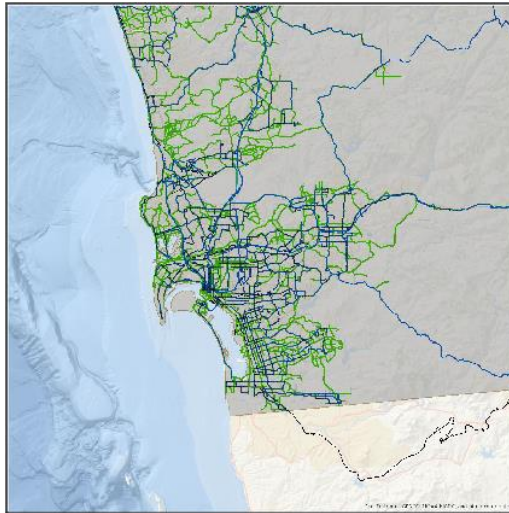

SAN DIEGO BICYCLE & PUBLIC TRANSIT GEODATABASE

Created by Kyle W. Smith
UCSD Extension GIS III
November 19, 2017



INTRODUCTION

The San Diego Bicycle & Public Transit Geodatabase is intended to provide answers to questions about non-personal-automobile transportation throughout the county. The database contains features for bus, light & commuter rail, and bike routes, as well as the streets, transit stops, and places that with which these transportation methods interact. The geodatabase also contains subtypes, domains, and topology to ensure data integrity.

The database is designed to answer questions such as:

- “Are bus stops in City Heights appropriately approximate to schools?”
- “Can bike lanes in North Park and Linda Vista be connected without intersecting with Freeways?”

The database and all feature classes use the NAD 1983 StatePlane California VI FIPS 0406 Feet (ESRI: 102646) spatial reference.



SCHEMA OVERVIEW

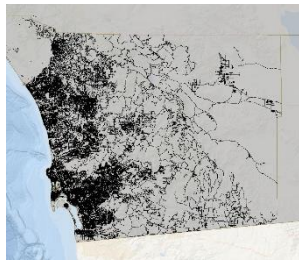
The San Diego Bicycle & Public Transit Geodatabase contains one primary Feature Dataset, six Feature Classes, and one Topology.

SAN DIEGO TRANSIT FEATURES DATASET



BIKE LANES FEATURE CLASS (LINES)

Line Feature Class **SD_Bike_Routes** contains all (as of 2015) bike lanes for San Diego County. This feature class can be combined with others in the dataset to determine future routes as well as support “Bike to Work” initiatives.



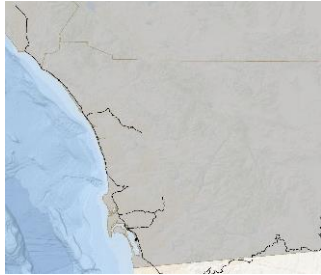
SAN DIEGO CITY STREETS (LINES)

The **SD_Roads_City** feature class includes all roads types in San Diego County. The fields in this class are comprehensive and well suited for analyzing future transit and bike routes. The feature participates in the **SD_Roads_Topology**.



MTS BUS ROUTES (LINES)

The **SD_Transit_Bus** class includes all Metropolitan Transit System (MTS) routes as line features. The feature class maintains route number integrity through the **Bus_Routes Domain**, which limits the possible values to the 1-992 range. The feature participates in the **SD_Roads_Topology**.



SAN DIEGO RAIL (LINES)

The **SD_Transit_Rail** class includes both **light** rail (San Diego Trolley and North County Sprinter) as well as the Amtrak Coaster line. This feature class includes a **subset** to differentiate between **Rail** and **Light Rail**, and the **Coded Rail Lines Domain**, which consists of allowable route names. The feature participates in the **SD_Roads_Topology**.



SAN DIEGO TRANSIT STOPS (POINTS)

The **SD_Transit_Stops** class contains point data for all bus, light rail, and Coaster routes and lines. The feature class table includes information pertaining to which routes and lines are accessed at the stop.



SAN DIEGO PLACES (POINTS)

The **SD_Places** feature class brings destination information to the geodatabase. It consists of attributes selected from the SanGIS Places feature class and include the types of locations most frequented by public transit and bicycle commuters.

SUBTYPES

Since the **SD_Transit_Rail** feature class contains both light commuter rail and standard rail, a subset was created to differentiate between the two. They are coded to 0 and 2 to maintain consistence with the codes used in the original SanGIS shapefile.

Feature Class Properties

General	Editor Tracking	XY Coordinate System	Domain, Reso
Fields	Indexes	Subtypes	Feature Extent
Relationships			

Subtype Field:

Default Subtype:

Subtypes:

Code	Description
0	Light Rail
2	Rail

Default Values and Domains:

Field Name	Default Value	Domain
RouteShape		
shape_id		
agency_id		
route_shor		
route_long		
route_desc		

DOMAINS

The geodatabase contains two workspace domains. The **Bus_Routes** domain ensures bus routes only fall within the allowable values, which range from 1-992. While there are invalid values within the range, this domain sets a baseline for data entry and can be expanded upon in the future with greater accuracy. The **Rail_Lines** domain restricts values to the numeric designators in the SanGIS transit data. Each rail line is assigned a coded value.

Workspace Domains

Domains

Domain Name	Description
Bus_Routes	Bus Route Identifiers
RailLines	Rail Line Designator

Domain Properties:

Field Type	Long Integer
Domain Type	Range
Minimum value	1
Maximum value	992
Split policy	Default Value
Merge policy	Default Value

Coded Values:

Code	Description

Database Properties

General Domains

Domain Name	Description
Bus_Routes	Bus Route Identifiers
RailLines	Rail Line Designator

Domain Properties:

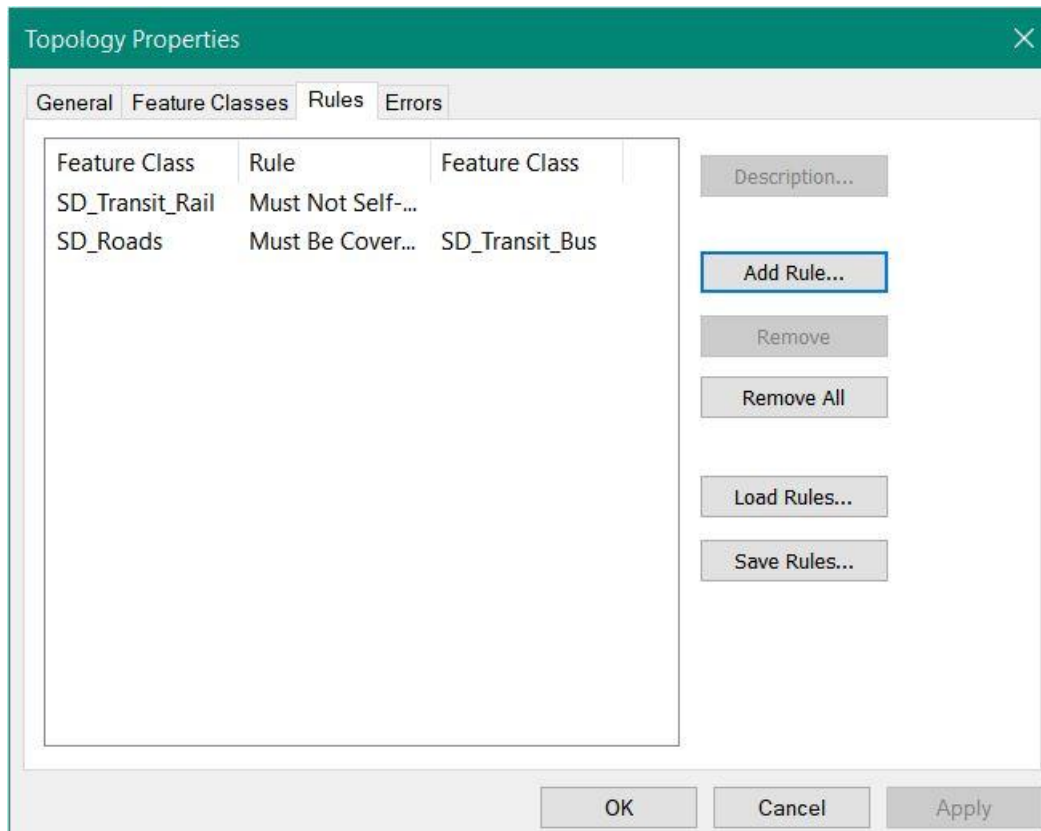
Field Type	Long Integer
Domain Type	Coded Values
Split policy	Default Value
Merge policy	Default Value

Coded Values:

Code	Description
510	Blue Line
520	Orange Line
530	Green Line
398	Coaster
399	Sprinter

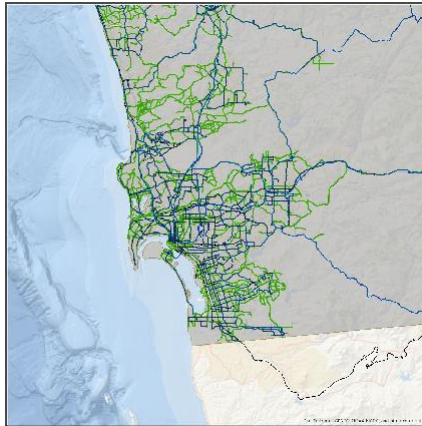
TOPOLOGY

The **SD_Roads_Topology** contains two rules for data integrity. A **Must Not Self Intersect** rule is applied to the **SD_Transit_Rail** feature class and a **Must Be Covered by Feature Class Of** rule ensuring the alignment of **SD_Roads** and **SD_Transit_Bus** classes.



METADATA

San Diego Public Transit and Bike Lane Geodatabase



Tags

San Diego, public transit, bike, bus, rail, light rail, places, stops

Summary

This geodatabase contains feature classes that provide information for planning and managing public transit and bike routes.

Description

There is no description for this item.

Credits

SanGIS

Use limitations

There are no access and use limitations for this item.

Extent

There is no extent for this item.

Scale Range

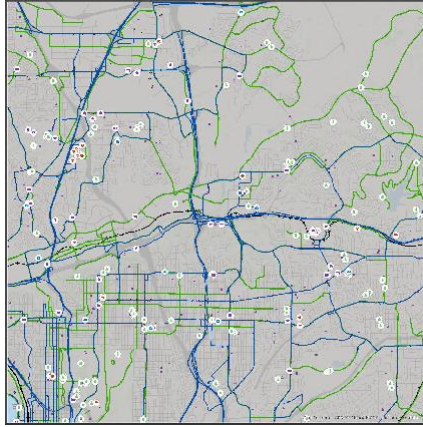
Maximum (zoomed in) 1:5,000

Minimum (zoomed out) 1:500,000

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content.

SAN DIEGO NON-AUTOMOBILE TRANSIT FEATURES DATASET

File Geodatabase Feature Dataset



Tags

transit, bus, trolley, bike, rail, light rail

Summary

This dataset contains feature classes of relevance to methods of commute other than by automobile.

Description

There is no description for this item.

Credits

SanGIS

Use limitations

There are no access and use limitations for this item.

Extent

West -117.599149 **East** -116.104375

North 33.503635 **South** 32.537644

Scale Range

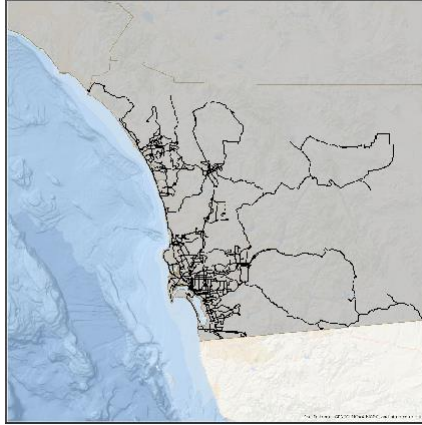
Maximum (zoomed in) 1:5,000

Minimum (zoomed out) 1:150,000,000

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content

MTS Bus ROUTES

File Geodatabase Feature Class



Tags

Transit, Routes, Bus, MTS, NCTD, San Diego

Summary

Public bus transit routes covering the County of San Diego. Bus routes managed by the San Diego County Metropolitan Transit System (MTS) and the North County Transit District (NCTD). Data is developed from the General Transit Feed Specification (GTFS) data available from the transit and feed registry (formerly from the GTFS Data Exchange). Layer is updated quarterly and may not reflect most current route information.

Description

Public transit routes in San Diego County managed by the San Diego County Metropolitan Transit System (MTS) and the North County Transit District (NCTD). Bus routes managed and developed from the General Transit Feed Specification (GTFS) data available from the transit and feed registry (formerly from GTFS Data Exchange).

Routes are developed from the GTFS data available through the transit land feed registry (<https://transit.land/feed-registry/>), formerly from the GTFS Data Exchange. GTFS data is provided to the exchange by the transit agencies and processed by SanGIS to create a consolidated GIS layer containing routes from both systems. SanGIS uses a publicly available ESRI ArcToolbox tool to create the GIS data layer. The toolbox can be found at <http://www.arcgis.com/home/item.html?id=14189102b795412a85bc5e1e09a0bafa>. This data set is created using the ROUTES.txt and SHAPES.txt GTFS data files.

Routes layers for MTS and NCTD are created separately and combined into a single layer using ArcGIS tools.

Credits

SanGIS using information provided by the San Diego Metropolitan Transit System (MTS - <http://www.sdmts.com/>) and the North County Transit District (NCTD - <http://www.gonctd.com/>) through the transitland feed registry (<https://transit.land/feed-registry/>) and formerly from the GTFS Data Exchange (<http://www.gtfs-data-exchange.com/>). GTFS data specifications are available at <https://developers.google.com/transit/overview>.

Use limitations

Data is generalized and created for use in regional projects. Please refer to SanGIS GIS data end user use agreement and disclaimer which is available at the following:
http://www.sangis.org/Legal_Notice.htm.

Data is as provided through the transitland feed registry. No representation is made as to the accuracy and currency of the data. Contributions to the transitland feed registry are voluntary and outside SanGIS control. GTFS specifications are not managed or maintained by SanGIS and may change over time.

Data layer is created from publicly available sources and is not verified, certified or endorsed by either MTS or NCTD.

SanGIS does not verify alignments or accuracy of data. SanGIS recreates the Transit Routes layer from the publicly available data only on a quarterly (or longer) basis and data may not be current.

Extent

West -117.598098 East -116.183849
North 33.435483 South 32.537652

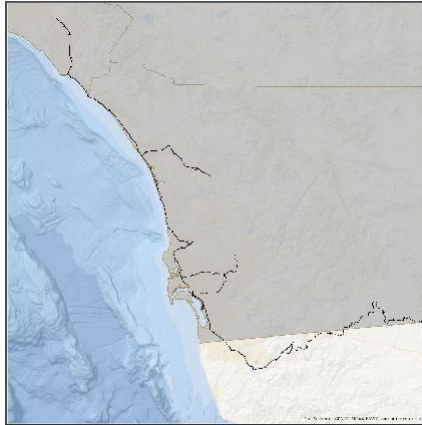
Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:500,000

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content.

SAN DIEGO RAIL

File Geodatabase Feature Class



Tags

Transit, Routes, Rail, Light Rail, Trolley, MTS, NCTD, San Diego

Summary

Public rail transit to include MTS Trolley, Sprinter, and Coaster.

Description

Public transit routes in San Diego County managed by the San Diego County Metropolitan Transit System (MTS) and the North County Transit District (NCTD). Bus, commuter and light rail, and trolley routes managed and developed from the General Transit Feed Specification (GTFS) data available from the transitland feed registry (formerly from GTFS Data Exchange).

Routes are developed from the GTFS data available through the transitland feed registry (<https://transit.land/feed-registry/>), formerly from the GTFS Data Exchange. GTFS data is provided to the exchange by the transit agencies and processed by SanGIS to create a consolidated GIS layer containing routes from both systems. SanGIS uses a publicly available ESRI ArcToolbox tool to create the GIS data layer. The toolbox can be found at <http://www.arcgis.com/home/item.html?id=14189102b795412a85bc5e1e09a0bafa>. This data set is created using the ROUTES.txt and SHAPES.txt GTFS data files.

Routes layers for MTS and NCTD are created separately and combined into a single layer using ArcGIS tools.

Credits

SanGIS using information provided by the San Diego Metropolitan Transit System (MTS - <http://www.sdmmts.com/>) and the North County Transit District (NCTD - <http://www.gonctd.com/>) through the transitland feed registry (<https://transit.land/feed-registry/>) and formerly from the GTFS Data Exchange (<http://www.gtfs-data-exchange.com/>). GTFS data specifications are available at <https://developers.google.com/transit/overview>.

Use limitations

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SanGIS does not verify alignments or accuracy of data. SanGIS recreates the Transit Routes layer from the publicly available data only on a quarterly (or longer) basis and data may not be current.

Extent

West	-117.380039	East	-116.973512
North	33.221649	South	32.541763

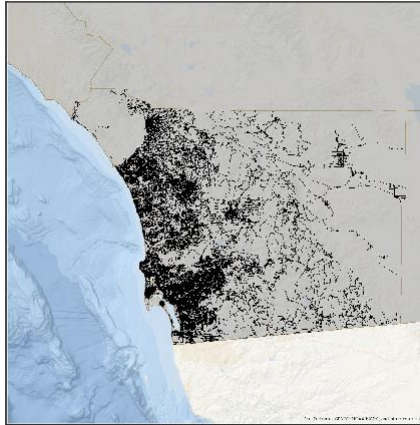
Scale Range

Maximum (zoomed in)	1:5,000
Minimum (zoomed out)	1:500,000

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content.

SAN DIEGO CITY STREETS

File Geodatabase Feature Class



Tags

Roads, San Diego County, Transportation, Highway, Collector, Arterial, Streets

Summary

This dataset comprises centerline segments for roads (both active and inactive, public and private, constructed or of record) in San Diego County based on data received from all official jurisdictions within the County (the County and 18 cities).

Description

This dataset comprises road centerlines for all roads in San Diego County. Road centerline information is collected from recorded documents (subdivision and parcel maps) and information provided by local jurisdictions (Cities in San Diego County, County of San Diego). Road names and address ranges are as designated by the official address coordinator for each jurisdiction. Jurisdictional information is created from spatial overlays with other data layers (e.g. Jurisdiction, Census Tract). The layer contains both public and private roads. Not all roads are shown on official, recorded documents. Centerlines may be included for dedicated public roads even if they have not been constructed. Public road names are the official names as maintained by the addressing authority for the jurisdiction in which the road is located. Official road names may not match the common or local name used to identify the road (e.g. State Route 94 is the official name of certain road segments commonly referred to as Campo Road). Private roads are either named or unnamed. Named private roads are as shown on official recorded documents or as directed by the addressing authority for the jurisdiction in which the road is located. Unnamed private roads are included where requested by the local jurisdiction or by SanGIS JPA members (primarily emergency response dispatch agencies).

Roads are comprised of road segments that are individually identified by a unique, and persistent, ID (ROADSEGID). Roads segments are terminated where they intersect with each other, at jurisdictional boundaries (i.e. city limits), certain census tract and law beat boundaries, at locations where road names change, and at other locations as required by SanGIS JPA members. Each road segment terminates at an intersection point that can be found in the ROADS_INTERSECTION layer. Road centerlines do not necessarily follow the centerline of dedicated rights-of-way (ROW). Centerlines are adjusted as needed to fit the actual, constructed roadway. However, many road centerline segments are created initially based on record documents prior to construction and may not have been updated to meet as-built locations. Please notify SanGIS if the actual location differs from that shown. See the SanGIS website for contact information and reporting problems

(<http://www.sangis.org/contact/problem.html>). Note, the road speeds in this layer are based on road segment class and were published as part of an agreement between San Diego Fire-

Rescue, the San Diego County Sheriff's Department, and SanGIS. The average speed is based on heavy fire vehicles and may not represent the posted speed limit.

Credits

SanGIS using information from documents recorded with the County of San Diego and the addressing authorities in the 18 cities in San Diego County.

Use limitations

Data is generalized and created for use in regional projects. Please refer to SanGIS GIS data end user use agreement and disclaimer which is available at the following:

http://www.sangis.org/Legal_Notice.htm. See Metadata Description item for further information.

Extent

West -117.215599 East -117.133189

North 32.742814 South 32.696012

Scale Range

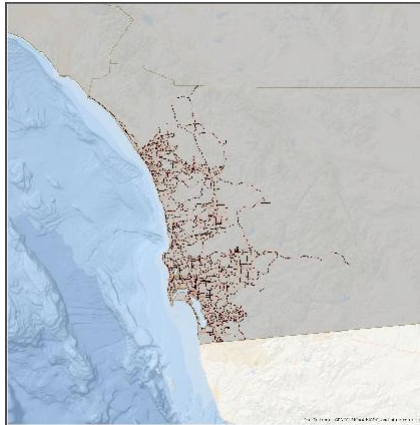
Maximum (zoomed in) 1:5,000

Minimum (zoomed out) 1:500,000

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content.

BIKE ROUTES

File Geodatabase Feature Class



Tags

SANDAG, San Diego, Bike, Bike Routes, Bike Facilities, Bike Network, Bike Map, Go By Bike

Summary

Existing (2015) Bike facilities in the San Diego Region. This dataset was developed for the primary purpose of updating the SANDAG San Diego Regional Bike Map and the interactive bike map on the iCommute website.

Description

This dataset uses the SanGIS Roads_All layer as the basis for the linear features. SANDAG obtained input on bike network data from local jurisdictions in 2014 and consolidated the data into a regional dataset. Additional updates were performed in 2015 including adding facility classification types and updating elevation values. Features were also segmented to account for changes in facility characteristics and to add jurisdiction names. For specific information regarding the status of bike facilities represented in the data, please contact bike planning staff for the respective local jurisdictions.

This dataset is available for viewing in an interactive web map. Visit SANDAG's homepage at www.sandag.org and navigate on the left panel to find "iCommute" under Services. In the new webpage that opens, the Bike Map is available under the "bike to work" section.

Credits

SANDAG Technical Services - GIS

Use limitations

Please read the SANDAG [Data Disclaimer](#) first before using SANDAG GIS data.

Extent

West -117.594319 East -116.508519
North 33.435499 South 32.537685

Scale Range

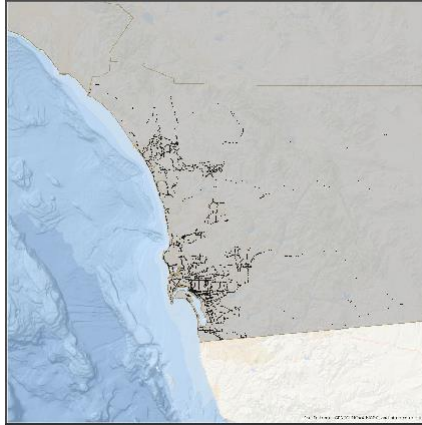
Maximum (zoomed in) 1:5,000

Minimum (zoomed out) 1:150,000,000

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content.

SAN DIEGO TRANSIT STOPS

File Geodatabase Feature Class



Tags

Transit, Stops, Stations, Bus, Rail, Light Rail, Trolley, MTS, NCTD, San Diego

Summary

Public transit stops and stations covering the County of San Diego. Bus, commuter and light rail, and trolley stops managed by the San Diego County Metropolitan Transit System (MTS) and the North County Transit District (NCTD). Data is developed from the General Transit Feed Specification (GTFS) data available from the transitland feed registry (formerly from the GTFS Data Exchange). Layer is updated quarterly and may not reflect most current route information.

Description

Public transit stops in San Diego County serviced by the San Diego County Metropolitan Transit System (MTS) and the North County Transit District (NCTD). Bus, commuter and light rail, and trolley stops developed from the General Transit Feed Specification (GTFS) data available from the transitland feed registry (and formerly the GTFS Data Exchange).

Stops are developed from the GTFS data available through the transitland feed registry (<https://transit.land/feed-registry/>) and formerly from the GTFS Data Exchange (<http://www.gtfs-data-exchange.com/>). GTFS data is provided to the exchange by the transit agencies and processed by SanGIS to create a consolidated GIS layer containing stops for both MTS and NCTD systems. SanGIS uses built-in ArcGIS tools to develop the stops from the STOPS.txt data file.

Stops layers for MTS and NCTD are created separately and combined into a single layer using ArcGIS tools.

Credits

SanGIS using information provided by the San Diego Metropolitan Transit System (MTS - <http://www.sdmmts.com/>) and the North County Transit District (NCTD - <http://www.gonctd.com/>) through the transitland feed registry (<https://transit.land/feed-registry/>). GTFS data specifications are available at <https://developers.google.com/transit/overview>.

Use limitations

Data is generalized and created for use in regional projects. Please refer to SanGIS GIS data end user use agreement and disclaimer which is available at the following: http://www.sangis.org/Legal_Notice.htm.

Data is as provided through the transitland feed registry (and formerly the GTFS Data Exchange). No representation is made as to the accuracy and currency of the data.

Contributions to the transitland feed registry are voluntary and outside SanGIS control. GTFS specifications are not managed or maintained by SanGIS and may change over time.

Data layer is created from publicly available sources and is not verified, certified or endorsed by either MTS or NCTD.

SanGIS does not verify position or accuracy of data. SanGIS recreates the Transit_Stops layer from the publicly available data only on a quarterly (or longer) basis and data may not be current.

Extent

West -117.593958 East -116.183833
North 33.435002 South 32.539011

Scale Range

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content

Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

You are currently using the Item Description metadata style. Change your metadata style in the Options dialog box to see additional metadata content.