New Jersey Road Centerlines Data

Guidance Document

DOWNLOADS
Downloads are available at https://njgin.state.nj.us/NJ_NJGINExplorer/jviewer.jsp?pg=ROADS. They include the following:

- **File geodatabase**: Tran_road_NJ
  - Feature Class: Tran_road_centerline_NJ
  - Feature Class: Tran_road_ctr_change_NJ
    - Crosswalk table: Tran_road_ctr_history_NJ
  - Geocoding table: Tran_road_geocode_NJ
  - Linear Referencing Systems table: Tran_road_LRS_NJ
  - Address Locator: Addr_NJ_road

- **Shapefile**: Tran_road_centerline_NJ

- **Marker Shields** (included with File geodatabase and Shapefile)
  - Style sheet: Tran_road_markershields_NJ.style
  - Instructions: Tran_road_markershields_NJ.pdf

DATA OBJECTS

**Feature Class Attributes – Tran_road_centerline_NJ**
Current road geometry.
- Segment identifier (SEG_GUID, replaces SEG_ID from previous version of road centerlines)
- Highest order highway route or local road designation (highway route takes precedence over local road in this field)
- Address ranges
- ZIP codes (numeric) and ZIP names (text)
- Municipality codes (GNIS)
- State
- Primary local road or highest order highway route name (local road name take precedence over highway route name in this field)
- Local road names
- Highway route names
- Highway route shields and subshields (includes modifiers for alternate, business, etc.)
- Highway route numbers
- Status (active, under construction, planned)
- Surface (improved, unimproved)
- Platform levels (at grade-separated interchanges/overpasses)
- Travel direction (both, increasing)
- Access (restricted, non-restricted)
- Jurisdiction (public, private)
- Feature Status (draft, final)
- Update Date (date of most recent update)

**Feature Class Attributes – Tran_road_ctr_change_NJ**
Deprecated road geometry for removed or modified segments. For users who need to track segment changes.
- Deprecated (archived) segment identifier
- Type of change (removed, modified)
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- Update date (date of most recent update)

TABLES

Segment Identifier Crosswalk – Tran_road_history_NJ
Allows correlation between the current geometry in Tran_road_centerline_NJ and deprecated geometry in Tran_road_ctr_change_NJ.
- Deprecated Segment identifier
- Current Segment identifier
Also allows correlation between the previously published segment identifier (SEG_ID) and the new segment identifier (SEG_GUID). This crosswalk is for users who created table relates to the previously published road centerlines data.

Geocoding – Tran_road_geocode_NJ
Primary and alternate road names configured as parsed elements to support optimized geocoding. This table has a many-to-one relationship with the Tran_road_centerline_NJ feature class.

Tran_road_LRS_NJ
Contains information about linear referencing systems supported by route measures applied to the Tran_road_centerline_NJ feature class geometry. The table includes fields for the Standard Route Identifier (SRI), Route Type (ROUTE_TYPE, as defined by NJDOT) and five separate linear referencing system (LRS) route measures. These LRSS enable dynamic display of data based on distance along a route as well as measure-based calculations about features. These fields are maintained by NJDOT except for New Jersey Turnpike and Garden State Parkway LRS measures, which are maintained by the New Jersey Turnpike Authority (not available in current release).

Standard Route Identifier (SRI)
The SRI is a 17 character code that identifies the full length of each highway route or local road using the following convention:

CCMMRRRRSD-QIPPPPP

CC The two-digit county code (00-21). The value is 00 for Highway Authority Routes, Interstate Routes, US Routes, and State Routes.
MM The two-digit municipality code (00-99). The value is 00 for Highway Authority Routes, Interstate Routes, US Routes, State Routes, County 500 Series Routes and Other County Routes.
RRRR The four-digit route number. For numbered routes (Interstates, State and US routes and most County and Other County routes), this number is the posted route number (right-justified).
S The route suffix if one exists (B - Business; A - Alternate; S – Spur, etc.). If a suffix does not exist, the "_" character is used.
D The primary direction in which the route runs. For undivided routes, or the primary direction of divided routes, the "_" character is used. Secondary directions on divided highways will use the appropriate directional abbreviation (N, S, E, W).
Ramps will include the ‘suffix’ portion, denoted as QIPPPPP.
More detailed information, include a description of the ramp suffix, can be found at:

http://www.state.nj.us/transportation/refdata/sldiaq/codes.pdf
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**Route Type**
NJDOT operations dictate that Interstate, US Highway and State Highway designations are considered higher order routes than Highway Authority Routes. The full hierarchy follows in descending order:

1 – Interstate
2 – US Highway
3 – State Highway
4 – Highway Authority Route
5 – 500 Series County Route
6 – Other County Route
7 – Local Road
8 – Ramp
9 – Alley
10 – Park / Military

**Linear Referencing Systems (LRS)**
The various LRSs are differentiated by a three-character prefix to the milepost fields. The prefixes and systems are described below. The table can be joined to the Tran_road_centerline_NJ (FC) based on the SEG_GUID field with a one-to-one relationship.

- **"SLD"** = Straight Line Diagram. This LRS was developed to support many systems internal to DOT. The SLD mileposting schema for divided roads (multiple centerline representation) increases in the direction of travel on the segment. For example, mileposting the Garden State Parkway primary segments (northbound, or ‘south to north’ direction of travel) begins at zero (0) in Lower Township, Cape May County. The secondary segments (southbound, or ‘north to south’ direction of travel) begins at zero (0) in Montvale Borough, Bergen County.

- For undivided, or single centerline routes, mileposting generally follows the convention of ‘south to north’ or ‘west to east’, though this is not absolute. Milepost values for this system are based on field inventories of route lengths and may differ from physical milepost marker locations observed in the field (See MMS below).

- **"PAR"** = Parent. The "parent" LRS concept was developed when DOT implemented the multiple centerline data model. It correlates milepost values between non-primary segments of divided routes and the analogous primary segment, or between a ramp and the primary route segment that the ramp serves. For main line routes on multiple centerline highways and all single centerline routes, the parent milepost values will be the reverse of the SLD_MP_ST (milepost start) and SLD_MP_END (milepost end). For ramps, the “PAR” values will both equal the milepost value at the primary segment where the ramp segment intersects.

- **"FLP"** = Flipped version. The flipped LRS reverses "SLD" mileposting such that secondary direction mileposting runs descending in the direction of travel. This system matches the mile markers and exit numbers as found in the field and is the LRS as previously published by DOT as the NJ Roadway Network.

- **"MMS"** = Mile Marker Signs. This LRS was derived from the field locations of mile marker signs, and has been developed for Interstate, US, and State highways.

- **"TPK"** = Turnpike. The Turnpike Authority has developed a highly detailed LRS that supports their specific operations for the Turnpike and Garden State Parkway.
CARTOGRAPHY

Line Symbology

Use the SYMBOLTYPE attribute in the feature class to define line symbology. The following list shows the hierarchy of symbol types in descending order. The SYMBOLTYPE has been expanded to separate ramps according to the highway served. SYMBOLTYPE values are listed below in descending hierarchical order.

Highway Routes

100 – Highway Authority Route
108 – Highway Authority Ramp
200 – Interstate Route
208 – Interstate Ramp
300 – US Highway Route
308 – US Highway Ramp
400 – State Highway Route
408 – State Highway Ramp
500 – 500 Series County Route
508 – 500 Series County Ramp
600 – Other County Route
608 – Other County Ramp

Local Roads

700 – Local Road
708 – Local Ramp
900 – Alley

For most segments, SYMBOLTYPE generally matches the NJDOT-assigned ROUTE_TYPE. Segments where SYMBOLTYPE and ROUTE_TYPE disagree are caused by differences in hierarchies employed by NJDOT and NJOIT-OGIS, or for ramp designations where NJDOT employs a more technical definition. These differences occur primarily at interchanges where SYMBOLTYPE supports more intuitive cartographic representation. Additionally, the entire NJ Turnpike carries a SYMBOLTYPE of “Highway Authority Route” whereas the ROUTE_TYPE is split between “Interstate” and “Highway Authority Route” due to operational needs at NJDOT.

Name Text Symbology

The PRIME_NAME attribute in the feature class can be used for full road name labeling. PRIME_NAME values carry the primary local road name or primary (highest order) highway route name (as shown in the hierarchical SYMBOLTYPE list above).

Available full text alternate names for each segment are also stored in the feature class to further support labeling without the need to join to a separate labeling table as in previous data releases.

Highway Marker Shield Symbology

Use the highway shield type attributes from the shield fields (H1_SHLD, H2_SHLD, H3_SHLD) or subshield fields (H1_SUBSHLD, H2_SUBSHLD, H3_SUBSHLD) as the basis for labeling. Each road segment can have up to three shields or subshields.

A style sheet for marker shields specific to New Jersey is provided in the Tran_road_markershields_NJ.style file for import into ArcMap Style Manager. The style sheet and instructions for its import and use are included with the data download. The style sheet contains marker shields for:
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<table>
<thead>
<tr>
<th>Atlantic City Expressway</th>
<th>US Highway Express</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic City Brigantine Connector</td>
<td>US Highway Truck</td>
</tr>
<tr>
<td>Garden State Parkway</td>
<td>State Highway</td>
</tr>
<tr>
<td>New Jersey Turnpike</td>
<td>State Highway Business</td>
</tr>
<tr>
<td>Palisades Interstate Parkway</td>
<td>State Highway Bypass</td>
</tr>
<tr>
<td>Palisades Interstate Parkway Spur</td>
<td>State Highway Express</td>
</tr>
<tr>
<td>Interstate</td>
<td>County Route</td>
</tr>
<tr>
<td>Interstate Connector</td>
<td>County Route Alternate</td>
</tr>
<tr>
<td>Interstate Express</td>
<td>County Route Business</td>
</tr>
<tr>
<td>US Highway</td>
<td>County Route Bypass</td>
</tr>
<tr>
<td>US Highway Business</td>
<td>County Route Spur</td>
</tr>
<tr>
<td>US Highway Bypass</td>
<td>County Route Truck</td>
</tr>
</tbody>
</table>

**GEOCODING**

Address Locator – Addr_NJ_road

Enables ArcGIS geocoding using data from the feature class and geocoding table. The Address Locator is newly generated with each update of the road centerlines and will not work with previous versions.