System Designations

* Interstate System
* Other Route Systems
* National Highway System, Intermodal Connectors
* National Network, Qualifying & Access Highways
* Strategic Highway Network, StraHNet Connectors
* Primary System
* Functional Classification
  - Principal Arterial System, NHS
  - Other Federal Aid (STP) eligible classifications
  - Non-Federal Aid eligible classifications

Many different “systems” with lots of confusion

Informal “Systems”

- State System
  - State owned? maintained? route?
  - State System
    - Touring Routes (Interstate, US, NY)
    - Reference Routes (900 series)
- Federal Aid System
  - Federal Aid eligible – under STP/ER
  - FHWA regs = National Highway System
Interstate System

- Interstate is both
  - A route designation
    - Subject to approval by AASHTO Special Subcommittee on US Route Numbering
  - A functional classification
    - Subject to FHWA review & approval
    - NY FC 1, 11; FHWA FS 1

NYSDOT Functional Class 1 (Rural) and 11 (Urban);
FHWA Functional System 1

Interstate System

- Interstate designation, or “de-designation”, requires approval of an AASHTO committee*
  which includes FHWA approval
- Added: I-99, Pennsylvania to Corning
  I-781, I-81 to Fort Drum
  I-695, renumbering of part of I-295
- Deleted: I-895 Sheridan Expressway
  I-81? Proposed in Syracuse

*AASHTO Special Subcommittee on US Route Numbering
915H is an unsigned part of the mainline NYS Thruway connecting between I-87 and I-90 at Exit 24 as both of those route designations (87 & 90) exit/enter the Thruway mainline at that point in a manner that leaves a gap (which is covered by 915H).

<table>
<thead>
<tr>
<th>Interstate System</th>
<th>78</th>
<th>99</th>
<th>481</th>
<th>695</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>81</td>
<td>190</td>
<td>490</td>
<td>781</td>
</tr>
<tr>
<td></td>
<td>84</td>
<td>278</td>
<td>495</td>
<td>787</td>
</tr>
<tr>
<td></td>
<td>86</td>
<td>287</td>
<td>587</td>
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<td>87</td>
<td>290</td>
<td>590</td>
<td>890</td>
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<td></td>
<td>88</td>
<td>295</td>
<td>678</td>
<td>895</td>
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<td></td>
<td>90</td>
<td>390</td>
<td>684</td>
<td>990</td>
</tr>
<tr>
<td></td>
<td>95</td>
<td>478</td>
<td>690</td>
<td>915H</td>
</tr>
</tbody>
</table>

Shortest Interstate routes in NYS

<table>
<thead>
<tr>
<th>Interstate System</th>
<th>78</th>
<th>0.91</th>
<th>Holland Tunnel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>587</td>
<td>1.23</td>
<td>Kingston Circle</td>
</tr>
<tr>
<td></td>
<td>895</td>
<td>1.35</td>
<td>Sheridan Expressway</td>
</tr>
<tr>
<td></td>
<td>915H</td>
<td>1.39</td>
<td>I-90/87 connector</td>
</tr>
<tr>
<td></td>
<td>695</td>
<td>1.73</td>
<td>I-295 spur</td>
</tr>
<tr>
<td></td>
<td>790</td>
<td>2.06</td>
<td>Utica I-90 connector</td>
</tr>
<tr>
<td></td>
<td>478</td>
<td>2.44</td>
<td>Brooklyn-Battery Tunnel</td>
</tr>
<tr>
<td></td>
<td>78</td>
<td>4.52</td>
<td>Fort Drum Expressway</td>
</tr>
</tbody>
</table>
### Interstate System

<table>
<thead>
<tr>
<th>Route</th>
<th>Miles</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>387</td>
<td>Thruway/Berkshire spur</td>
</tr>
<tr>
<td>87</td>
<td>334</td>
<td>Thruway/Northway</td>
</tr>
<tr>
<td>86</td>
<td>215</td>
<td>Southern Tier Exp.</td>
</tr>
<tr>
<td>81</td>
<td>184</td>
<td>Interstate 81</td>
</tr>
<tr>
<td>88</td>
<td>118</td>
<td>Warren Anderson Exp.</td>
</tr>
<tr>
<td>390</td>
<td>76</td>
<td>Interstate 390</td>
</tr>
<tr>
<td>84</td>
<td>71</td>
<td>Interstate 84</td>
</tr>
<tr>
<td>495</td>
<td>66</td>
<td>Long Island Expressway</td>
</tr>
</tbody>
</table>

Longest Interstate routes in NYS

### System Designations

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  - Non-Federal Aid eligible classifications
State Route Designations

- Touring Routes – Interstate, US, NY
- Interstate & US – AASHTO
- NY Routes – Office of Traffic Safety & Mobility
- Approximately 15,500 miles
  - Interstates 1700 miles
  - US Routes 1700 miles
  - NY Routes 12,000 miles
- Approximately 1200 miles not NYSDOT
- Reference Routes 1200 miles

Touring route designation has no connection to jurisdiction or ownership. Reference routes includes things like parkways, stubs owned by NYSDOT.

US Routes

<table>
<thead>
<tr>
<th>Route</th>
<th>Miles</th>
<th>Route</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 1</td>
<td>22</td>
<td>US 20</td>
<td>372</td>
</tr>
<tr>
<td>US 2</td>
<td>1</td>
<td>US 20A</td>
<td>83</td>
</tr>
<tr>
<td>US 4</td>
<td>80</td>
<td>US 44</td>
<td>66</td>
</tr>
<tr>
<td>US 6</td>
<td>78</td>
<td>US 62</td>
<td>103</td>
</tr>
<tr>
<td>US 9</td>
<td>325</td>
<td>US 202</td>
<td>56</td>
</tr>
<tr>
<td>US 9W</td>
<td>130</td>
<td>US 209</td>
<td>61</td>
</tr>
<tr>
<td>US 11</td>
<td>319</td>
<td>US 219</td>
<td>68</td>
</tr>
</tbody>
</table>

These are NOT "Federal Routes"; they are simply a different set of numbers. US routes are not treated any differently than NY routes except that the approval process for changing a US route number involves AASHTO and the NY routes do not.
Routes over 300 miles in NYS

- NY 17 397 215 miles are also I-86
- I-90 387 Thruway/Berkshire spur
- US 20 372
- NY 5 371
- NY 22 337
- I-87 334 Thruway/Northway
- US 9 325
- US 11 319
- NY 30 301

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National Highway System

- Began in 1995, NY capped at ~5000 miles
- Meant to be focus of FHWA program and oversight
- Expanded in 2012 with MAP-21 to include all Principal Arterials
- NYS used “NHS Plus” as guide to add 1000 more miles to fill gaps
- NYS now at over 8000 miles

National Highway System

- Affected by NHS designation:
  - Funding eligibility
  - Design standards
    - Including clearance under bridges
  - Data collection requirements
  - Performance monitoring requirements
  - Outdoor advertising restrictions
  - Auto junkyard restrictions
National Highway System

- To add to the mainline NHS a roadway must be a Principal Arterial, although the reverse is not true
  - Principal arterials do not automatically become National Highway System
  - FC (principal arterial) and NHS approval processes differ
- Intermodal Connectors exception from PA

NHS Intermodal Connectors

- Airport
- Port
- AMTRAK Station
- Rail/Truck Terminal
- Intercity Bus Terminal
- Public Transit/Multi Modal
- Pipeline Terminal
- Ferry Terminal
Intermodal Connectors are also NHS and, therefore, also must meet NHS:
- Funding eligibility
- Design standards
  - Including clearance under bridges
- Data collection requirements
- Performance monitoring requirements
- Outdoor advertising restrictions
- Auto junkyard restrictions

Intermodal connectors can be on non-Federal Aid eligible roads (with respect to STP): Urban Local, Rural Local, Rural Minor Collector.

System Designations

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* Other Route Systems
* National Highway System, Intermodal Connectors
* **National Network**, Qualifying & Access Highways
* Strategic Highway Network, StraHNet Connectors
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  - Non-Federal Aid eligible classifications

Do not confuse National Highway System with National Network.
National Network

- A national trucking network
  - Established by Congress in 1982
  - Assumes inclusion of all Interstates
    - Unless otherwise specified
  - Other routes specific in CFR
  - Requires amendment to CFR to change
  - Allows selected combination trucks
  - No relationship to the NHS, National Freight Network or anything else

National Network

- Equivalent to “Qualifying Highways” in NYS
  - Some inconsistency
    - Interstates in NYS not listed in CFR
      - Implies inclusion in National Network
    - Interstates are listed (but not all) in NYS list of Qualifying & Access Highways
      - Occasionally causes ambiguities
      - I-895 Sheridan Expressway
National Network

- Travel up to one mile off the National Network is allowed for trucks to reach their local destinations
- Upon application, NYS considers requests to designate additional roadways as “Access Highways” to provide connection to more distant locations

New York States official listing of state truck routes. Includes definition of permitted and restricted trucks on various networks.
### System Designations

- Interstate System
- Other Route Systems
- National Highway System, Intermodal Connectors
- National Network, Qualifying & Access Highways
- **Strategic Highway Network**, StraHNet Connectors
- Primary System
- Functional Classification
  - Principal Arterial System, NHS
  - Other Federal Aid (STP) eligible classifications
  - Non-Federal Aid eligible classifications

### Strategic Highway Network

- Highways designated as strategic to rapid deployment of the military in time of need
- Includes all Interstates plus other designated roadways
  - Used to include NY 17 and US 15 in New York but both are now Interstate
- **StraHNet Connectors**
  - Additional connections to military facilities
Strategic Highway Network

- StraHNet Connector facilities
  - Fort Drum
  - West Point
  - Port facilities on Staten Island
- Total 25 miles
  - All Principal or Minor Arterials

Example map of STRAHNET connectors. Designations specified by the Military. Must check occasionally as there is no automatic notification of changes.
Primary System

- Primary System is a combination of
  - 1991 Federal Aid Primary System
  - National Highway System
    - 1991 FAP is static
    - NHS changes
  - Affects regulation of
    - Outdoor Advertising
    - Auto Junkyards


“Primary”

- 1991 Federal Aid Primary System
- Primary System: 1991 FAP & NHS
- Primary direction of travel
  - Primary/reverse
  - Primary/non-Primary
- Primary under State Operations Manual for certifying a Critical Access Hospital
  - Interstate
  - US Route
  - NHS

Being a common word, the use of “Primary” as a technical term in many situations leads to ambiguity and confusion. The two listed in bold are the main ones of concern to highway data customers.
Functional Classification System

- Principal Arterial
- Minor Arterial
- Collector
- Local

Principal Arterial – breaks into 3 classes
- Interstate
  - A designation, not a “function”
  - Changes must be approved by AASHTO and FHWA
- Other Freeway/Expressway
  - A physical description, not a “function”
  - Ambiguous when includes intersections
- Other Principal Arterials - non-expressway
Functional Classification System

- Principal Arterial
  - In NYS, all are also NHS
  - NHS is not automatic
  - Can be PA but not NHS
- Evolution from pre-ISTEA (1990) Federal Aid System to combined FAS/FC to inclusion in NHS has left anomalies and discrepancies

Functional Classification System

- Federal Aid eligible classifications
  - Principal Arterial
  - Minor Arterial
  - Collector
    - Major
    - Minor (urban only)
- Non-Federal Aid eligible
  - Collector
    - Minor (rural)
    - Local
### Functional Classification System

<table>
<thead>
<tr>
<th>Functional Classification Codes</th>
<th>NYS Urban</th>
<th>NYS Rural</th>
<th>FHWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Arterial Interstate</td>
<td>11</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Principal Arterial Expressway</td>
<td>12</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Principal Arterial Other</td>
<td>14</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Minor Arterial</td>
<td>16</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Major Collector</td>
<td>17</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Minor Collector</td>
<td>18</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Local</td>
<td>19</td>
<td>9</td>
<td>7</td>
</tr>
</tbody>
</table>

NYS kept the old codes for consistency with other systems and to keep urban/rural distinction for cross validation and for Collector Fed Aid eligibility distinction.

### Functional Classification System

- **Federal Aid eligible**
  - Typically means STP/ER eligible
    - 27,700 miles
  - NHS roadways also Fed Aid eligible (NHPP)
    - Intermodal connectors not necessarily STP
    - Fewer than 6 miles currently Urban Local
- **Non-Federal Aid** – 85,000 miles
  - Rural Minor Collector – 9000
  - Rural Local – 43,000
  - Urban Local – 34,000
Functional Classification System

- “Rules”
  - Principal Arterials connect significant destinations (not necessarily large places)
    - Lake Placid/Saranac Lake
  - Minor Arterials connect destinations
  - Arterials interconnect to equal or higher FC
    - No “dead ends”
    - No discontinuities
  - Collectors lead to arterials
  - Collectors don’t merge to become arterials

Functional Classification System

- “Rules”
  - Relative AADT is most objective criteria
  - For arterials, what two destinations served?
  - FC 18 was added where needed
    - Only used where a FC 8 became urban
    - Little over 200 miles statewide
  - “Future” functional class
Expressway vs. Boulevard

- Principal Arterial – breaks into 3 classes
  - Interstate
    - A designation, not a “function”
    - Changes must be approved by AASHTO and FHWA
  - Other Freeway/Expressway
    - A physical description, not a “function”
    - Ambiguous when includes intersections
  - Other Principal Arterials - non-expressway

Expressway vs. Boulevard

- Sheridan Expressway – I-895
  - Long existing interest in downgrade
    - Adjacent to a park
  - Lowering speed, narrowing lanes, at-grade intersections
  - Interstate de-designation
  - National Network issue
  - FC will still be an expressway
Expressway vs. Boulevard

- Others
  - I-81 Syracuse
  - NY 198 Scajaquada Expressway
  - NY 787 Cohoes Boulevard
  - NY 50 C V Whitney Highway, Saratoga
  - I-787 Albany waterfront

Expressway vs. Boulevard

- Others
  - I-81 Syracuse
    - Interstate de-designation
    - Interstate renumbering
    - National Network alteration
      - Requires NPRM, comment period
  - Functional Class changes
    - Affected part of I-81
    - Affected downtown streets
One alternative considered.

Expressway vs. Boulevard

- Others
  - I-81 Syracuse
  - NY 787 Cohoes Boulevard
    - Sought downgrade from FC 12 to 14
    - Could not comply as FC reflects what road is, not what is desired
      - Future FC issue
    - Current project addresses characteristics
Expressway vs. Boulevard

- Others
  - I-81 Syracuse
  - NY 787 Cohoes Boulevard
  - NY 50 C V Whitney Highway, Saratoga
    - Desire to downgrade to FC 14
    - Cannot comply unless design change

Expressway vs. Boulevard

- Others
  - I-81 Syracuse
  - NY 787 Cohoes Boulevard
  - NY 50 C V Whitney Highway, Saratoga
    - Desire to downgrade to FC 14
    - Cannot comply unless design change
  - I-787 Albany waterfront
    - Movement to remove or downgrade
    - Desire for access to waterfront
    - Volumes on order of 80-90,000
      - Reduced speed reduces capacity
      - May not be able to handle volumes
Expressway vs. Boulevard

- Others
  - I-81 Syracuse
  - NY 787 Cohoes Boulevard
  - NY 50 C V Whitney Highway, Saratoga
  - I-787 Albany waterfront
  - Washington Avenue Extension
  - ?
  - Cannot change FC just because of desire
    - Change the road then FC changes