



Asset Management

Meeting GASB-34: An Integrated Software Approach for Transportation Agencies

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Agenda

- ◆ GASB-34 – New Information Demands
- ◆ Database Requirements for GASB-34
- ◆ IT / GIS Capabilities to Support GASB-34
- ◆ Integrating Asset Valuation into the Database



Why GASB-34 ?

- No accountability - Infrastructure assets always considered a sunk cost
- Difficulty measuring how well government manages \$ spent on preservation & maintenance
- GASB-34 requires infrastructure to be valued under Statement of Net Assets
- GASB-34 compliance will show how well government is making fiscal decisions regarding infrastructure



GASB-34 Depreciation Approach

- Based on historical costs
- Asset value depreciated over useful life
- Reveals replacement needs at end of service life
- Does not account for condition/performance of assets
- Preservation/maintenance expenditures not considered
- Approach well understood by accountants

Not a good fit - Does not address operational and preservation realities of long-lived infrastructure



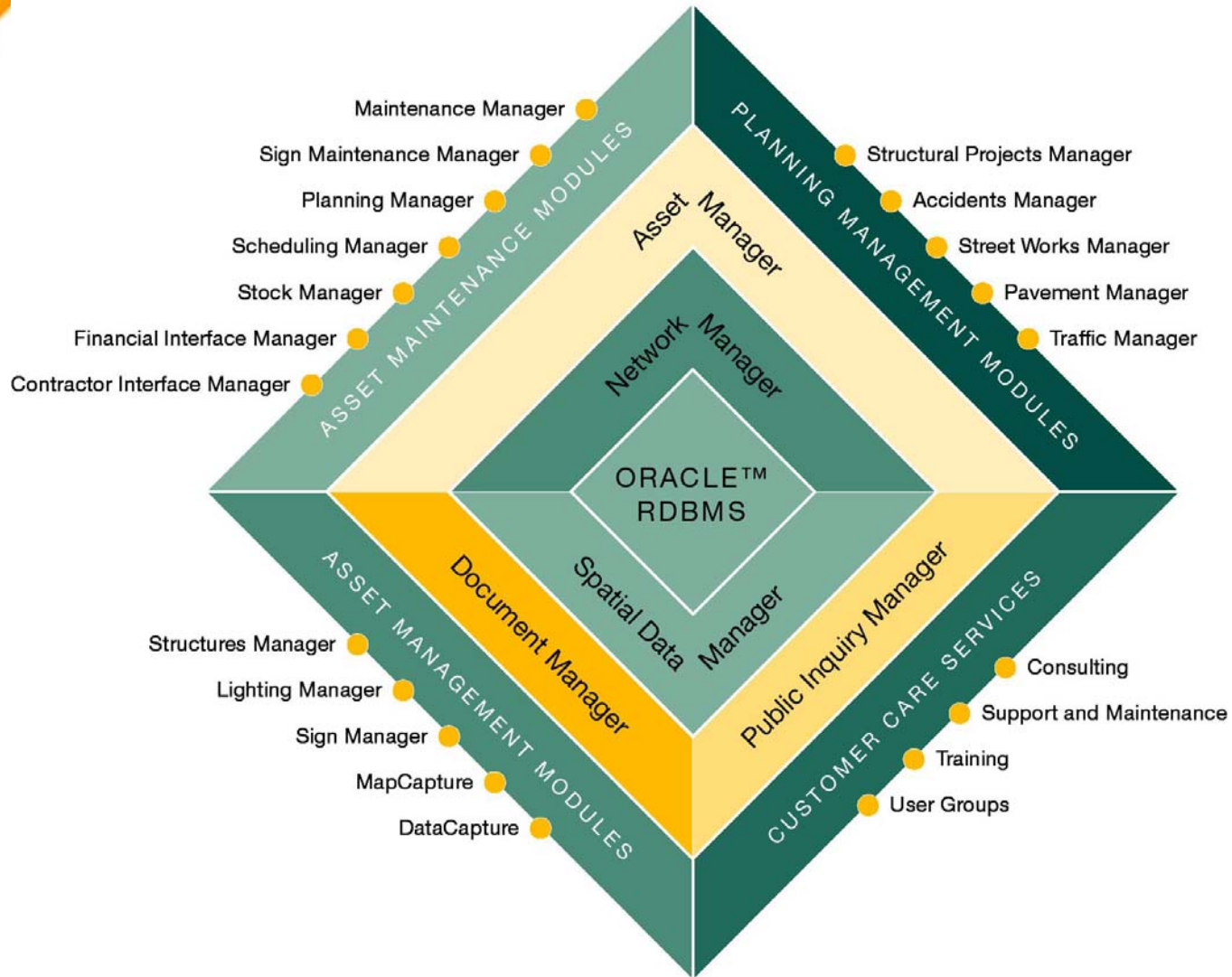
GASB-34 Modified Approach

- Maintain up-to-date asset inventory
- Establish a basis for asset condition measurement
- Perform condition assessment every 3 years
- Establish an asset preservation 'level of service'
- Document inspection regime & maintenance performed
- Prove assets being maintained to pre-determined level

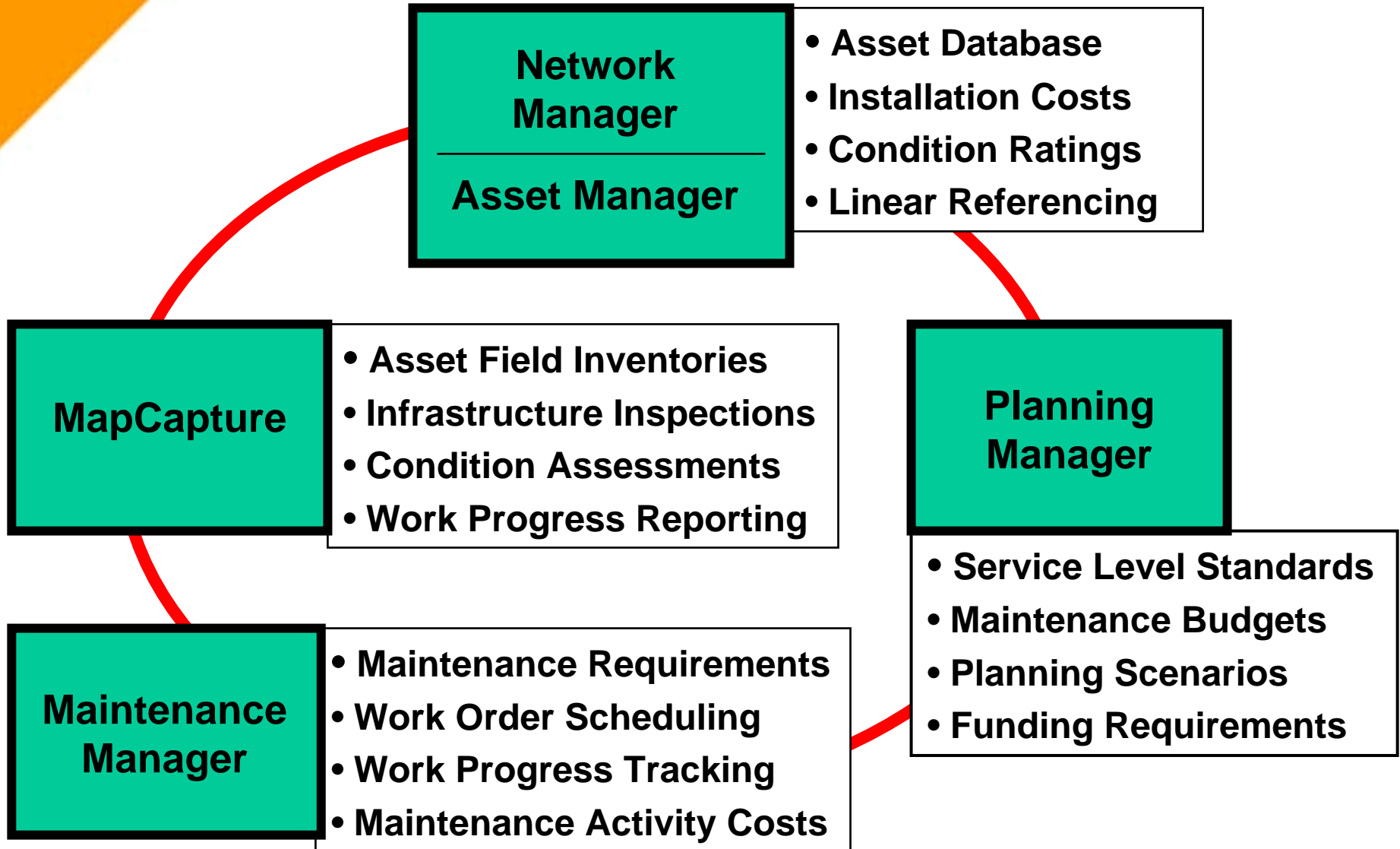
Requires an "Asset Management System" Approach



Highways by Exor



Data Requirements for GASB-34

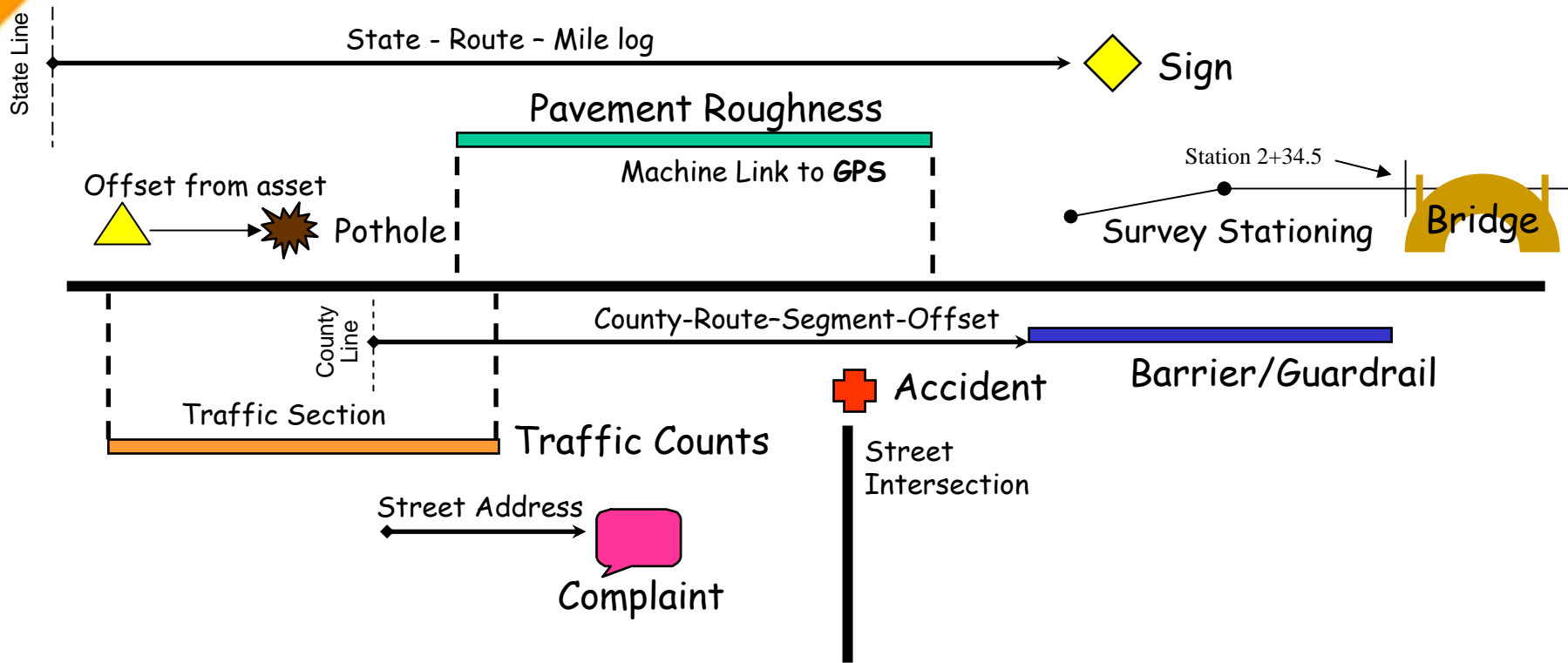




IT/GIS Capabilities to Support GASB-34

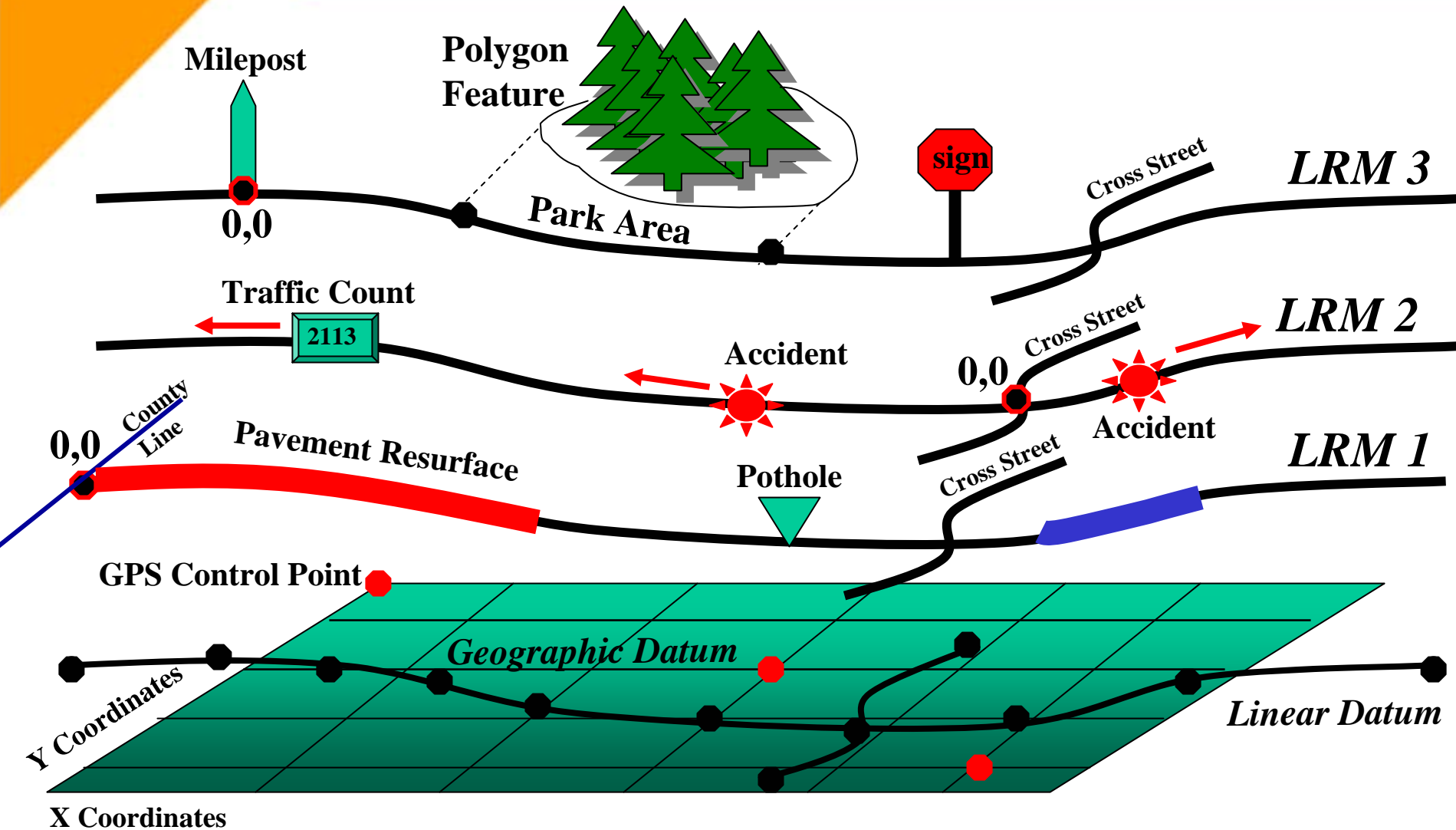
- 1. Network Models and Linear Referencing**
- 2. Multiple Linear Referencing Methods**
- 3. Network-based Asset Groups and Sub-classes**
- 4. Integrated Asset-based Maintenance Management**
- 5. Access to Historical Data for Comparison**

1. Network Models and Linear Referencing



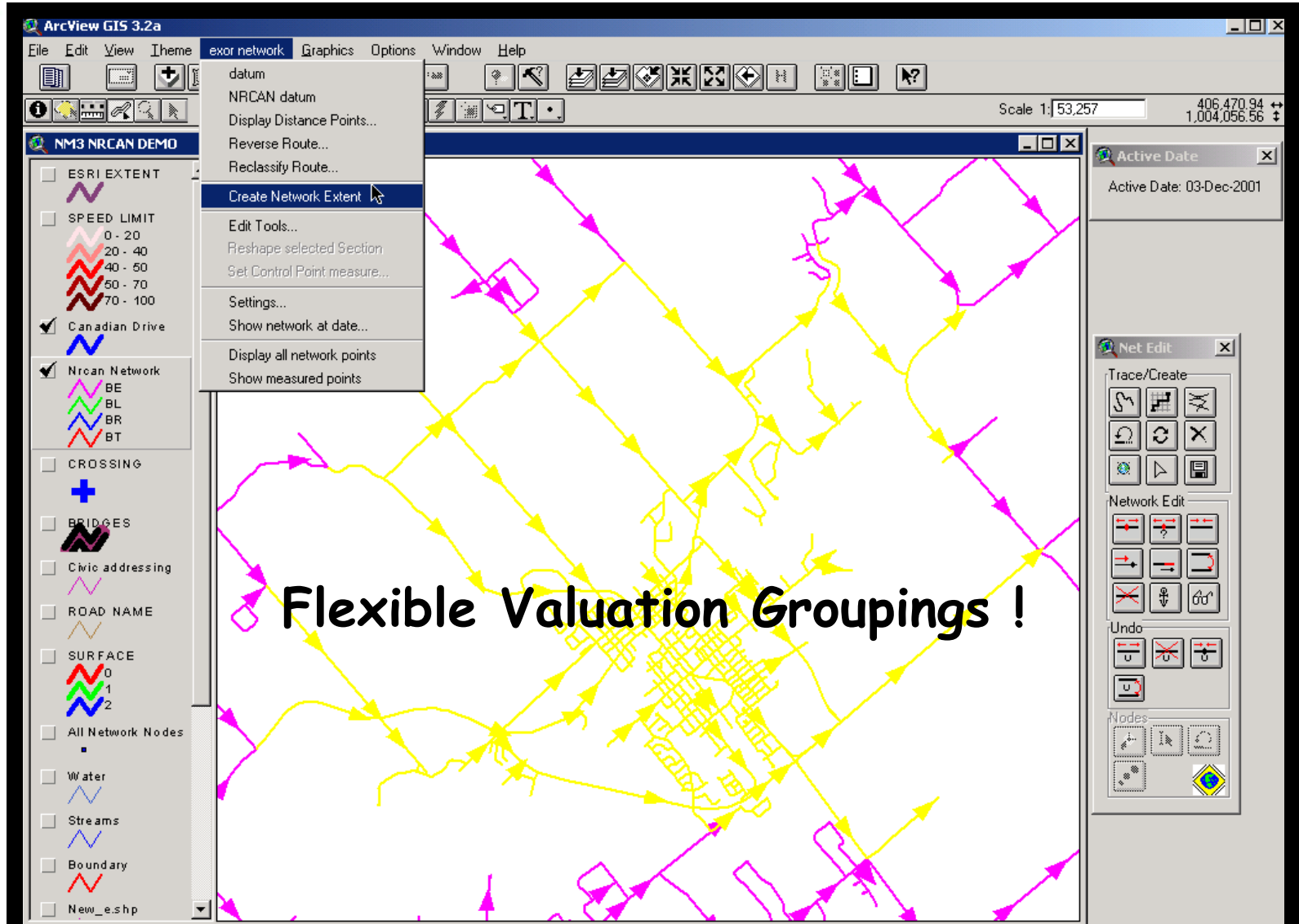
How Data is Managed in the Real World !

2. Multiple Linear Referencing Methods



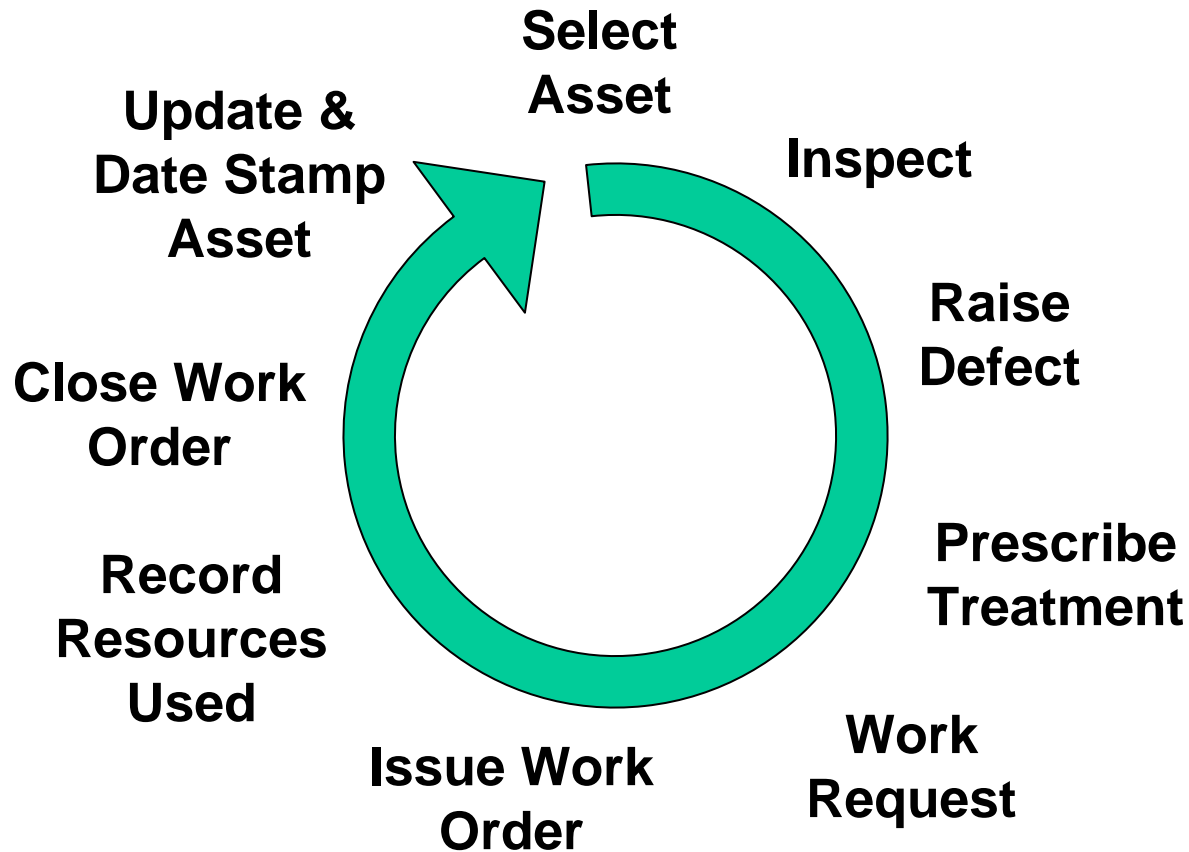
Common Framework for Integration !

3. Network-based Asset Groups & Sub-classes



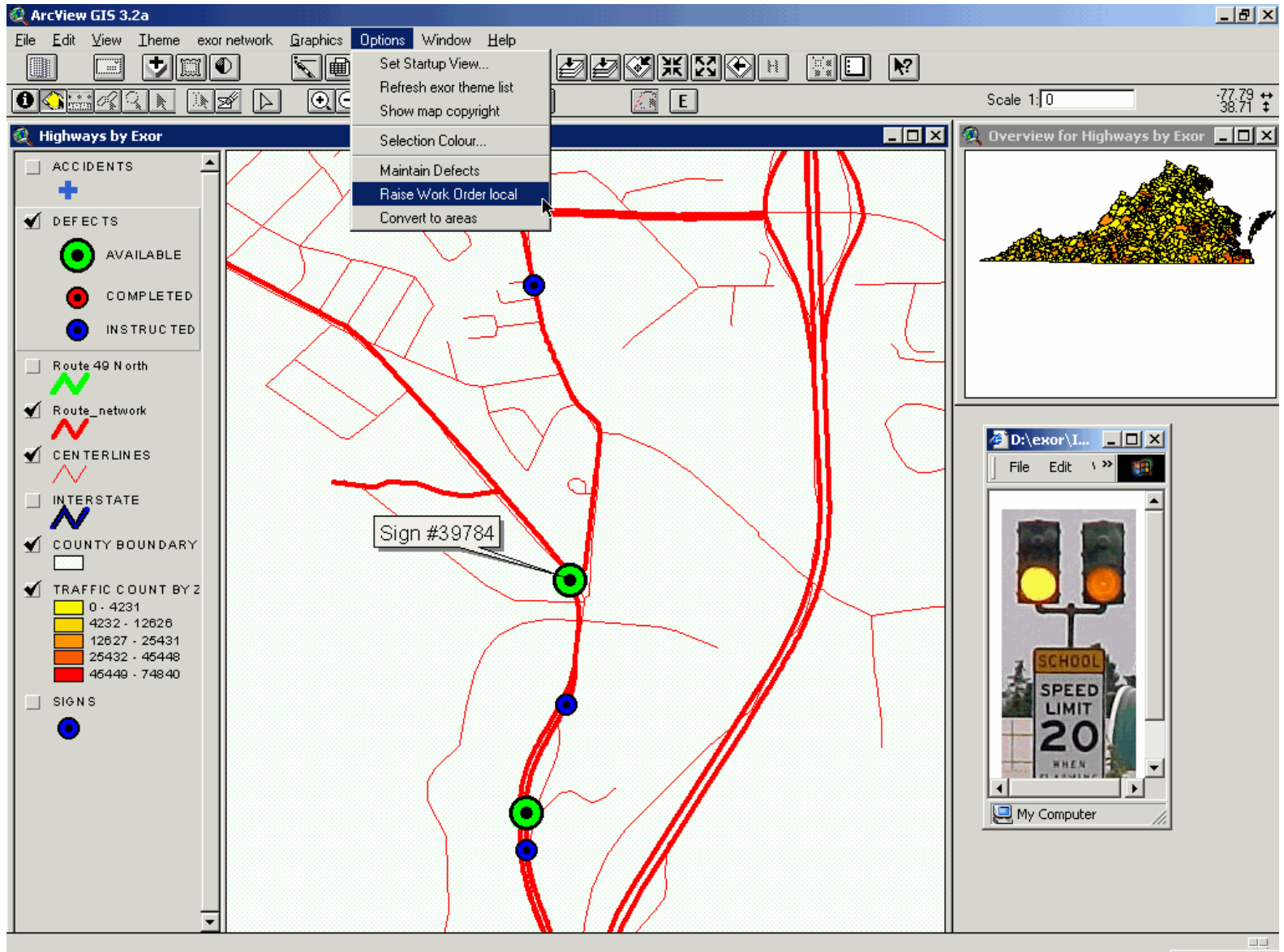
Flexible Valuation Groupings !

4. Asset-based Maintenance Management



Best done using a common network model !

Raise Work Order Against Assets



The screenshot displays the ArcView GIS 3.2a interface. The main map area shows a network of red lines representing highways. A context menu is open over a green circle asset, with the option "Raise Work Order local" highlighted. The menu options are:

- Set Startup View...
- Refresh exor theme list
- Show map copyright
- Selection Colour...
- Maintain Defects
- Raise Work Order local**
- Convert to areas

The legend on the left side of the map is titled "Highways by Exor" and includes the following categories:

- ACCIDENTS (checkbox unchecked)
- DEFECTS (checkbox checked)
 - AVAILABLE (green circle)
 - COMPLETED (red circle)
 - INSTRUCTED (blue circle)
- Route 49 North (checkbox unchecked)
- Route_network (checkbox checked)
- CENTERLINES (checkbox checked)
- INTERSTATE (checkbox unchecked)
- COUNTY BOUNDARY (checkbox checked)
- TRAFFIC COUNT BY Z (checkbox checked)
 - 0 - 4231 (yellow)
 - 4232 - 12626 (orange)
 - 12627 - 25431 (red)
 - 25432 - 45448 (dark red)
 - 45449 - 74840 (dark red)
- SIGNS (checkbox unchecked)

The overview map on the right shows a zoomed-out view of the highway network. The bottom right window displays a photograph of a traffic light and a speed limit sign (SPEED LIMIT 20).

Track Work Progress

Highways by Exor

Action Edit Block Field Record Query Help Window

Work Orders (Defect)

Work Order: DEMO/7 Sign Repairs on US 49 North

Interim Payment? Y Priority: 1

Road Type: ROUT Road Id: ROUTE 49 NORTH Scheme Type: LR

Contract: EXOR/CONSU Exor Private Consulting Firm

Contractor: INTERNAL Internal work crews

Contact: Contractor Score:

Originator: RDP Russell Page Cost Centre:

Authorised By: Job Number: 00000

Rechargeable: Cost Recharged: Remarks:

Date Raised: 22-MAR-2001

Target Complete:

Date Instructed:

Last Printed:

Date Received:

Date Completed:

Lines Standard Item T

Defects (DEMO/7)

| Road Id / Descr / Location / Remarks | Defect Id /Type/Priority /Asset Ref /Asset Id | Treatment /Sheet /Labour Units /Schedule | Status /Completed /Est Cost | Work Category /Repaired /Act Cost / Invoice |
|--------------------------------------|---|--|-----------------------------|---|
| 0000S30001/00055 | 41 | T /RBL | INSTRUCTED | 020101 |
| SEGMENT NO. 00055 ON LINK S30001 | ACCD 1 | | | |
| Across from Sunoco Gas Station | 558790185 | | | |
| | 39779 | | | |
| 0000S30001/00055 | 42 | T /RBL | INSTRUCTED | 020101 |
| SEGMENT NO. 00055 ON LINK S30001 | ACCD 1 | | | |
| Across from Sunoco Gas Station | 558790185 | | | |

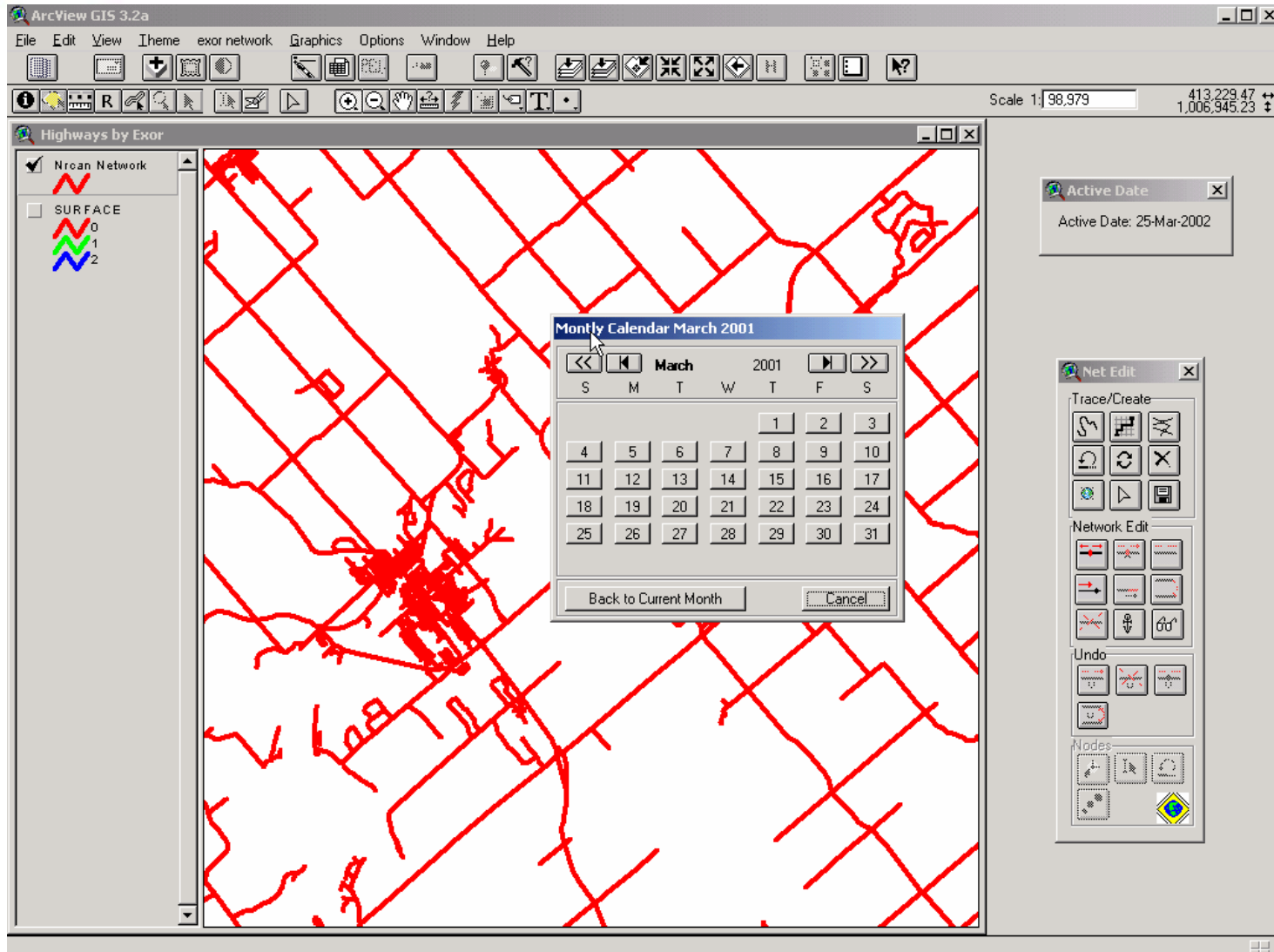
Highways La...

Asset Query Shows Work Complete

The screenshot displays the ArcView GIS 3.2a interface. The main map window, titled "Highways by Exor", shows a network of roads. A legend on the left side is expanded to show "DEFECTS" with three categories: "AVAILABLE" (green circle), "COMPLETED" (red circle), and "INSTRUCTED" (blue circle). Other legend items include "ACCIDENTS", "Route 49 North", "Route_network", "CENTERLINES", "INTERSTATE", "COUNTY BOUNDARY", "TRAFFIC COUNT BY Z" (with a color-coded scale from yellow to red), and "SIGNS". A specific road segment is highlighted in red, and a callout box labeled "Sign #39784" points to a red circle on that segment. A small window titled "D:\exor\I..." is open over the map, showing a photograph of a traffic light and a "SCHOOL SPEED LIMIT 20 WHEN FLASHING" sign. An "Overview for Highways by Exor" window in the top right corner shows a small-scale map of the entire area. The top of the ArcView window shows the menu bar (File, Edit, View, Theme, exor network, Graphics, Options, Window, Help) and a toolbar with various GIS tools. The status bar at the bottom right indicates a scale of 1:0 and coordinates of -77.79 and 38.70.

**Proof
Assets
being
Maintained
to
Established
Service
Levels !**

5. Historical Data for Comparisons



Justify Funding Requests !



Valuation Attribution of Assets

- **Calculated Attributes**

- Valuation formulas based on other asset attributes
- Use combinations of attributes, such as:
 - *Asset Type, Installation Date, Initial Cost, Condition Rating, Last Maintenance Date, Useful Life, etc.*

- **Populated Attributes**

- Best judgment based on asset condition, maintenance history and useful life data

- **Valuation Date Attributes**



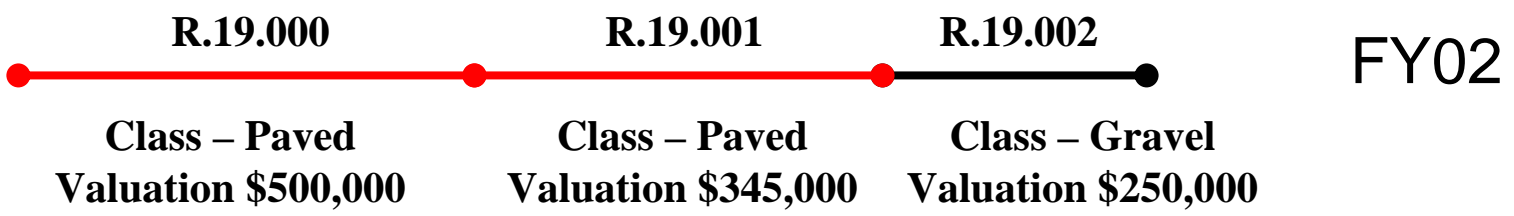
GASB-34 Valuation

- **Valuation Sections** (network-based)
- **Valuation Groups** (area/jurisdiction/district-based)

Need Ability to Mix and Match !

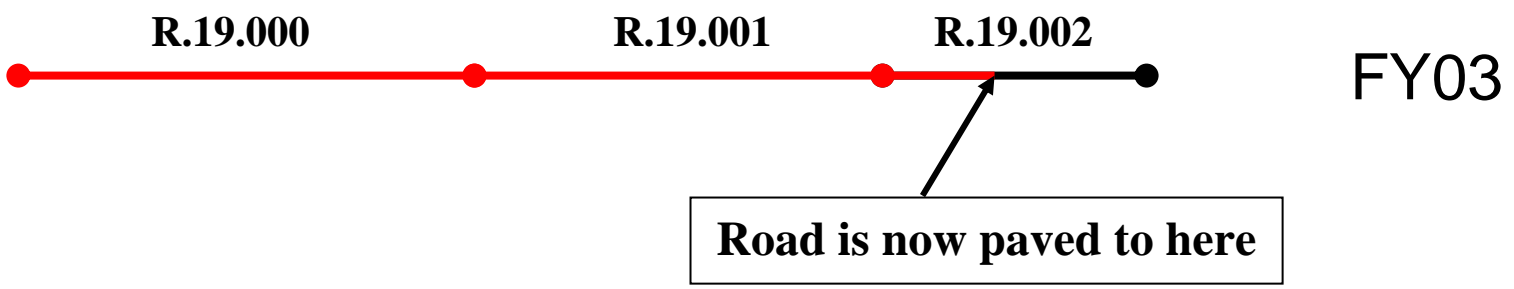


Valuation Sections



Valuations results:
Paved – \$845,000
Gravel - \$250,000

Change





GASB-34 Valuation Reporting

- System-wide by asset categories
- Pavement – miles by jurisdiction, category, surface type
- Bridges – quantity or length by type, class, or grouped with route
- Network Furniture – by type, quantity or length
 - *Safety, Drainage, Informational*
- Pedestrian/Bicycle
- Other Transportation Modes

Provide for Flexibility and Changes !



Questions ?

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