

# Chapter 5

## ***Routes*** ***(inventoried, coinciding, high order, dummy)***



# 8-Digit Code (Review)

The 8-digit code specifies state-maintained primary and secondary routes, local routes, and political boundaries (municipal, county, and state).

**1-0-0-00040**

<u>First Digit</u>	<u>Second Digit</u>	<u>Third Digit</u>	<u>Last 5 Digits</u>
<u>Route/Boundary Type</u>	<u>Special Route Type</u>	<u>Couplet Direction</u>	<u>Route/Boundary #</u>
1 - Interstate	0 - None	0 - Not a couplet	This is the route/ boundary number (left padded with zeros).
2 - US Route	1 - Alternate	3 - Northbound	
3 - NC Route	2 - Bypass	4 - Southbound	
4 - Secondary Route	3 - North	5 - Eastbound	
5 - City Street (LCL)	4 - South	6 - Westbound	
6 - Non-System	5 - East	8 - Clockwise	
7 - County Boundary	6 - West	9 - Counterclockwise	
8 - State Boundary	7 - Special (spur, connector, etc.)		
9 - Municipal Boundary	8 - Truck		
	9 - Business		

## 8-Digit Code Exercise

What is the 8-digit code for NC 87 ?

What type of feature is described by the 8-digit code of 80000006 ?

What type of route is defined by the 8-digit code of 40001010 ?

What is the 8-digit code for US 1 Alternate?

## 8-Digit Code Exercise

What is the 8-digit code for NC 87 ?

**30000087**

What type of feature is described by the 8-digit code of 80000006 ?

What type of route is defined by the 8-digit code of 40001010 ?

What is the 8-digit code for US 1 Alternate?

## 8-Digit Code Exercise

What is the 8-digit code for NC 87 ?

**30000087**

What type of feature is described by the 8-digit code of 80000006 ?

**state line (boundary)**

What type of route is defined by the 8-digit code of 40001010 ?

What is the 8-digit code for US 1 Alternate?

## 8-Digit Code Exercise

What is the 8-digit code for NC 87 ?

**30000087**

What type of feature is described by the 8-digit code of 80000006 ?

**state line (boundary)**

What type of route is defined by the 8-digit code of 40001010 ?

**secondary route**

What is the 8-digit code for US 1 Alternate?

## 8-Digit Code Exercise

What is the 8-digit code for NC 87 ?

**30000087**

What type of feature is described by the 8-digit code of 80000006 ?

**state line (boundary)**

What type of route is defined by the 8-digit code of 40001010 ?

**secondary route**

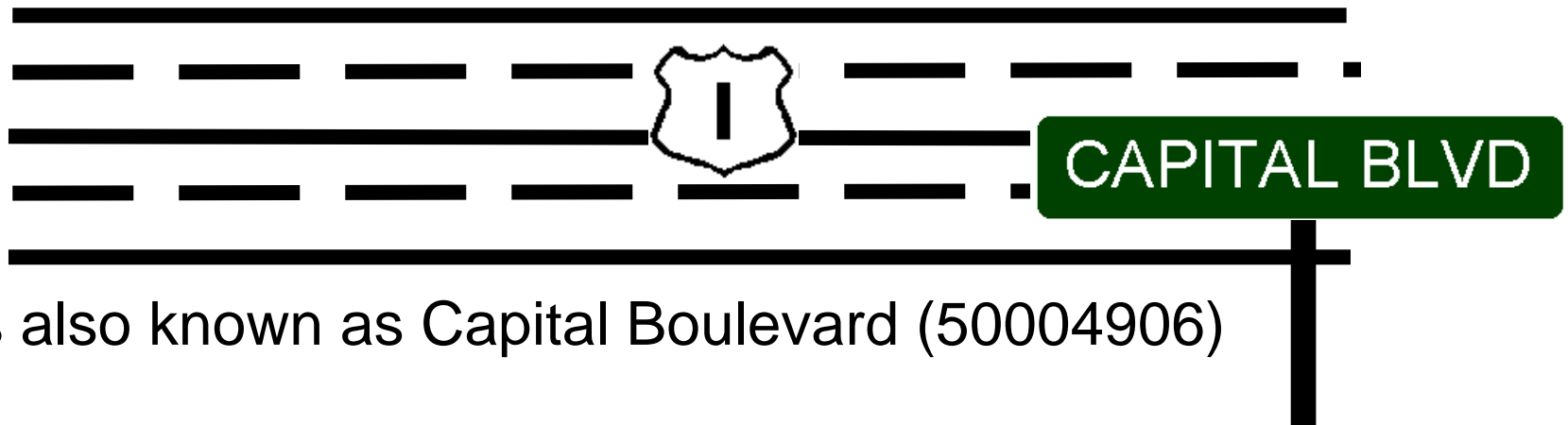
What is the 8-digit code for US 1 Alternate?

**21000001**

# Coinciding Routes

Routes that follow the same section of pavement as other routes:

US 1 (20000001) in Raleigh ...



.....is also known as Capital Boulevard (50004906)

**Therefore, Capital Boulevard is a coinciding route with US 1, AND US 1 is a coinciding route with Capital Boulevard.**



## Coinciding Routes (cont.)

- Many routes are designated by both a state route number and a local name.
- **Always** check for coinciding routes.
- The analyst can get the 8-digit code for the local route name from maps, local knowledge, the SR Name Lookup website, or the “Feature Names and Secondary Routes” component of TEAAS.
- It is imperative in crash analyses to know if the state route number has a local name attached to it, or vice-versa.
- ***KNOW YOUR LOCATION!!!!***

# Coinciding Routes Examples

Local Route Name - Primary Route Number  
(Capital Boulevard - US 1)

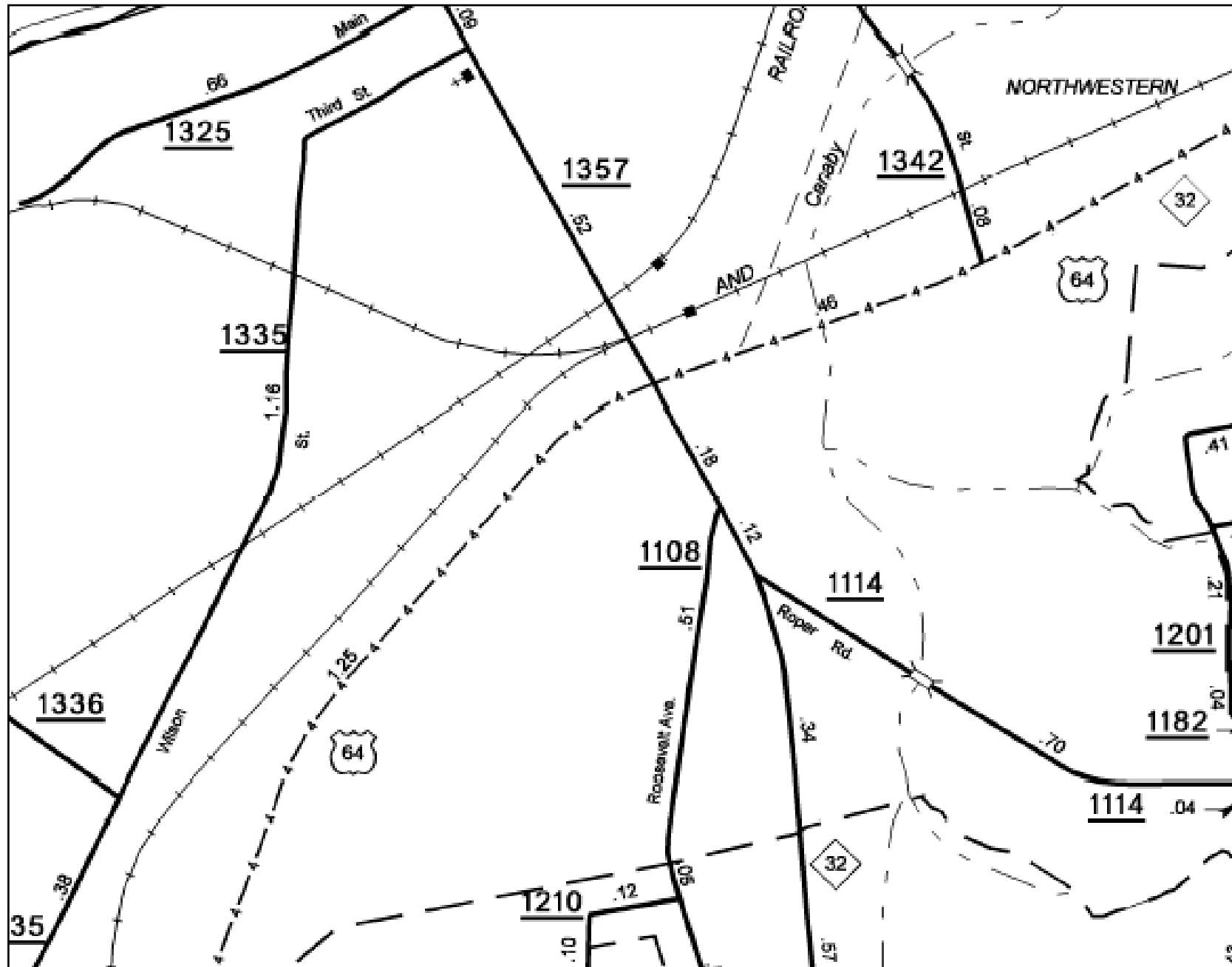
Local Route Name - Secondary Route Number  
(Third Street - SR 1335)

*Possible to have more than two coinciding routes:*

Local Route Name - Multiple Route Numbers  
(Capital Boulevard - US 1 - US 401)

***KNOW YOUR LOCATION!!!!***

# Coinciding Routes Exercise



# Coinciding Routes Exercise

What is a coinciding route of Roosevelt Ave ?

What is a coinciding route of SR 1335 ?

What is a coinciding route of parts of NC 32 ?

# Coinciding Routes Exercise

What is a coinciding route of Roosevelt Ave ?

**SR 1108**

What is a coinciding route of SR 1335 ?

What is a coinciding route of parts of NC 32 ?

# Coinciding Routes Exercise

What is a coinciding route of Roosevelt Ave ?

**SR 1108**

What is a coinciding route of SR 1335 ?

**Wilson Street -OR- Third Street**

What is a coinciding route of parts of NC 32 ?

# Coinciding Routes Exercise

What is a coinciding route of Roosevelt Ave ?

**SR 1108**

What is a coinciding route of SR 1335 ?

**Wilson Street -OR- Third Street**

What is a coinciding route of parts of NC 32 ?

**US 64**

# High Order Routes

- In coinciding route situations, one of the routes is considered to be the highest order route (HOR)
- In most cases, the lower the 8-digit code, the higher its order (exceptions may be found where routes have been re-numbered or re-routed)
- Used by the CRASH database to give each crash a HOR milepost (if the coinciding routes are mileposted)
- Crashes are not always reported using the HOR
- Crashes are always mileposted using the HOR (if the coinciding routes are mileposted)



# High Order Route Examples

I 40 > I 440 > US 1 > NC 49 > SR 1001

*Since:*

10000040 < 10000440 < 20000001 <  
30000049 < 40001001

**NOTE! Exceptions may be found where routes have been re-numbered or re-routed.**

## High Order Route Exercise

What is the highest order route between coinciding routes Roosevelt Avenue and SR 1108 ?

What is the highest order route between coinciding routes NC 45 and NC 32 ?

What is the highest order route between coinciding routes US 29 Business and US 64 ?

## High Order Route Exercise

What is the highest order route between coinciding routes Roosevelt Avenue and SR 1108 ?

**SR 1108 (40001108 < 50026431)**

What is the highest order route between coinciding routes NC 45 and NC 32 ?

What is the highest order route between coinciding routes US 29 Business and US 64 ?

## High Order Route Exercise

What is the highest order route between coinciding routes Roosevelt Avenue and SR 1108 ?

**SR 1108 (40001108 < 50026431)**

What is the highest order route between coinciding routes NC 45 and NC 32 ?

**NC 32 (30000032 < 30000045)**

What is the highest order route between coinciding routes US 29 Business and US 64 ?

## High Order Route Exercise

What is the highest order route between coinciding routes Roosevelt Avenue and SR 1108 ?

**SR 1108 (40001108 < 50026431)**

What is the highest order route between coinciding routes NC 45 and NC 32 ?

**NC 32 (30000032 < 30000045)**

What is the highest order route between coinciding routes US 29 Business and US 64 ?

**US 64 (20000064 < 29000029)**

# High Order Route Segments

- Used to determine the Highest Order Route (HOR) on coinciding routes
- ***Review: In most coinciding route situations, the highest order route is the route that has the lowest 8-digit code along that segment (exceptions may be found where routes have been re-numbered or re-routed)***
- A particular road can have several different segments with different high order routes
- Access the highest order segments by selecting the following:



⇒ Highest Order Segments

# High Order Route Segments (cont.)

To search for Highest Order Routes:

- Click the **“Search”** icon
- Enter the search criteria
- Leave any criteria blank if they are not part of the search
- Click the **“GO”** icon

The screenshot shows the TEAAS - Highest Order Segments application window. The window title is "TEAAS - Highest Order Segments". The menu bar contains "Edit" and "Help". The toolbar includes a "Search" icon (magnifying glass), a "GO" icon (green circle with white text), and a "Refresh" icon (circular arrow). The main form is divided into several sections:

- Inventoried Route**:
  - County: WAKE (dropdown menu)
  - Inventoried Rte ID: 50004906 (text input)
  - Begin Milepost: (text input)
  - End Milepost: (text input)
- Highest Order Segment**:
  - Segment Milepost Begin: (text input)
  - Segment Milepost End: (text input)
  - HO Rte ID: (text input)
  - HO Rte Milepost Begin: (text input)
  - HO Rte Milepost End: (text input)
  - Milepost Delta: (text input)
  - Inventory Direction: Radio buttons for "Same" and "Reverse"
- Last Update**:
  - User ID: (text input)
  - Date/Time: (text input)

Annotations with arrows point to various elements:

- "Search" icon: Points to the magnifying glass icon in the toolbar.
- "GO" icon: Points to the green circle icon in the toolbar.
- Specify Name of County: Points to the County dropdown menu.
- 8-digit road code of the route (wildcard characters may be used to search for one or more inventoried routes - refer to Appendix D for a description on the use of wildcard characters): Points to the Inventoried Rte ID text input.
- Beginning Milepost of the Route: Points to the Begin Milepost text input.
- Beginning milepost of the high order segment: Points to the Segment Milepost Begin text input.
- Ending milepost of the high order route is not allowed as search criteria: Points to the HO Rte Milepost End text input.
- Beginning milepost of the route segment: Points to the Segment Milepost End text input.
- Ending milepost of the route segment: Points to the HO Rte Milepost End text input.
- 8-digit road code of the high order route (wildcard characters may be used to search for one or more high order routes - refer to Appendix D for a description on the use of wildcard characters): Points to the HO Rte ID text input.

At the bottom of the window, there is a status bar showing "0 of 0" and navigation arrows.

## High Order Route Segments (cont.)

- Click the “**OK**” button on the records retrieved dialog box to view the records retrieved
- If no records are returned, verify that the search criteria are correct
- A new search may be executed by adjusting the search criteria and clicking the “**GO**” icon
- TEAAS will display a maximum of 500 records for any given search (although more than 500 records may actually meet the search criteria)



# High Order Route Segments Example 1

Suppose you wanted to find all high order routes coinciding with Capital Boulevard (50004906) in Wake County...

Step A: Click on the “**Search**” icon

Step B: Enter the county name (Wake)

Step C: Enter the 8-digit code for the route (50004906)

Step D: Click the “**GO**” icon.

The screenshot shows the TEAAS - Highest Order Segments application window. The window title is "TEAAS - Highest Order Segments". The interface includes a menu bar with "Edit" and "Help". Below the menu bar is a toolbar with several icons, including a search icon (magnifying glass) and a "GO" icon (a green circle with "GO" text). The main form is divided into several sections:

- Inventoried Route**:
  - County: WAKE
  - Inventoried Route ID: 50004906
  - Begin Milepost: [empty]
  - End Milepost: [empty]
- Highest Order Segment**:
  - Segment Milepost Begin: [empty]
  - Segment Milepost End: [empty]
  - HO Rte ID: [empty]
  - HO Rte Milepost Begin: [empty]
  - HO Rte Milepost End: [empty]
  - Milepost Delta: [empty]
- Inventory Direction**:
  - Same
  - Reverse
- Last Update**:
  - User ID: [empty]
  - Date/Time: [empty]

At the bottom of the window, there is a status bar showing "0 of 0" and navigation buttons. Arrows from the text steps point to the search icon (Step A), the County and Inventoried Route ID fields (Step B and C), and the GO icon (Step D).

# High Order Route Segments Example 1

You should get a dialog box that reads

**“The search returned: 3 record(s)”**

Step E: Click on the **“OK”** button and view the high order records

The screenshot shows the TEAAS - Highest Order Segments application window. The window title is "TEAAS - Highest Order Segments". The menu bar includes "Edit" and "Help". The toolbar contains icons for back, forward, and search. The main form is divided into several sections:

- Inventoried Route:** County (WAKE), Inventoried Rte ID (50004906), Begin Milepost, End Milepost.
- Highest Order :** Segment Milepost, Segment Milepost, HO Rte ID, Inventory Direction (Same, Reverse), HO Rte Milepost Begin, HO Rte Milepost End, Milepost Delta.
- Last Update:** User ID, Date/Time.

A "TEAAS Information" dialog box is open, displaying the message "The search returned: 3 record(s)." and an "OK" button. An arrow points from the text "Step E" to the "OK" button.

Step E

NOTE – If the dialog box reads **“The search returned: 0 record(s)”** it means that TEAAS could not find the route you entered in its list of high order routes (check your search criteria to verify that it was entered correctly).

# High Order Route Segments Example 1

The screenshot shows a software window titled "TEAAS - Highest Order Segments" with a menu bar (Edit, Help) and a toolbar. The interface is divided into three main sections: "Inventoried Route", "Highest Order Segment", and "Last Update".

**Inventoried Route**

County	WAKE
Inventoried Rte ID	50004906
Begin Milepost	0.0
End Milepost	16.010

**Highest Order Segment**

Segment Milepost Begin	0.0
Segment Milepost End	0.870
HO Rte ID	50004906
Inventory Direction	<input checked="" type="radio"/> Same <input type="radio"/> Reverse
HO Rte Milepost Begin	0.0
HO Rte Milepost End	0.870
Milepost Delta	0.0

**Last Update**

User ID	TEAAS CONVERSION
Date/Time	28 September 1999 12:00 AM

At the bottom, there are navigation buttons and a page indicator "1 of 3".

Beginning milepost for 50004906

Ending milepost for 50004906

Beginning milepost for this segment of 50004906

Ending milepost for this segment of 50004906

High order route ID for this segment of 50004906

Indicates whether the direction of the mileposting of the high order route matches the direction of the inventoried route for this segment

Beginning milepost for the high order route for this segment of 50004906

Ending milepost for the high order route for this segment of 50004906

Milepost delta (used to convert the milepost of crashes on a low order route to the milepost of the high order route)

# High Order Route Segments Example 2

Suppose you wanted to find all lower order routes coinciding with US 401 (20000401) in Wake County...

Step A: Click on the “**Search**” icon

Step B: Enter the county name (Wake)

Step C: Enter the 8-digit code for the high order route (20000401)

Step D: Click the “**GO**” icon.

The screenshot shows the TEAAS - Highest Order Segments application window. The window has a menu bar with 'Edit' and 'Help'. Below the menu bar is a toolbar with several icons, including a green 'GO' button. The main area is divided into several sections:

- Inventoried Route**: Contains a 'County' dropdown menu with 'WAKE-91' selected, and input fields for 'Inventoried ID', 'Begin Milepost', 'End Milepost', and 'Road Name'.
- Highest Order Segment**: Contains input fields for 'Segment Milepost Begin', 'Segment Milepost End', 'HO Rte ID' (with '20000401' entered), 'HO Rte Milepost Begin', 'HO Rte Milepost End', and 'Milepost Delta'. There is also an 'Inventory Direction' section with radio buttons for 'Same' and 'Reverse'.
- Reports**: Contains a button labeled 'HO Segments Report'.
- Last Update**: Contains input fields for 'User ID' and 'Date/Time'.

Four arrows point from text labels to the application window:

- Step A** points to the 'GO' button in the toolbar.
- Step B** points to the 'County' dropdown menu.
- Step C** points to the 'HO Rte ID' input field.
- Step D** points to the 'GO' button in the toolbar.

# High Order Route Segments Example 2

You should get a dialog box that reads

**“The search returned: 10 record(s)”**

Step E: Click on the **“OK”** button and view the high order records

TEAAS - Highest Order Segments

Edit Help

**Inventoried Route**

County: WAKE-91

Inventoried Rte ID: [ ]

Begin Milepost: [ ]

End Milepost: [ ]

Road Name: [ ]

**Highest Order Segment**

Segment Mile: [ ]

Segment Mil: [ ]

HO Rte Mile: [ ]

HO Rte Milepost End: [ ]

Milepost Delta: [ ]

By Direction: [ ]

Reverse: [ ]

**TEAAS Information**

The search returned: 10 record(s)

OK

**Reports**

HO Segments Report

**Last Update**

User ID: [ ]

Date/Time: [ ]

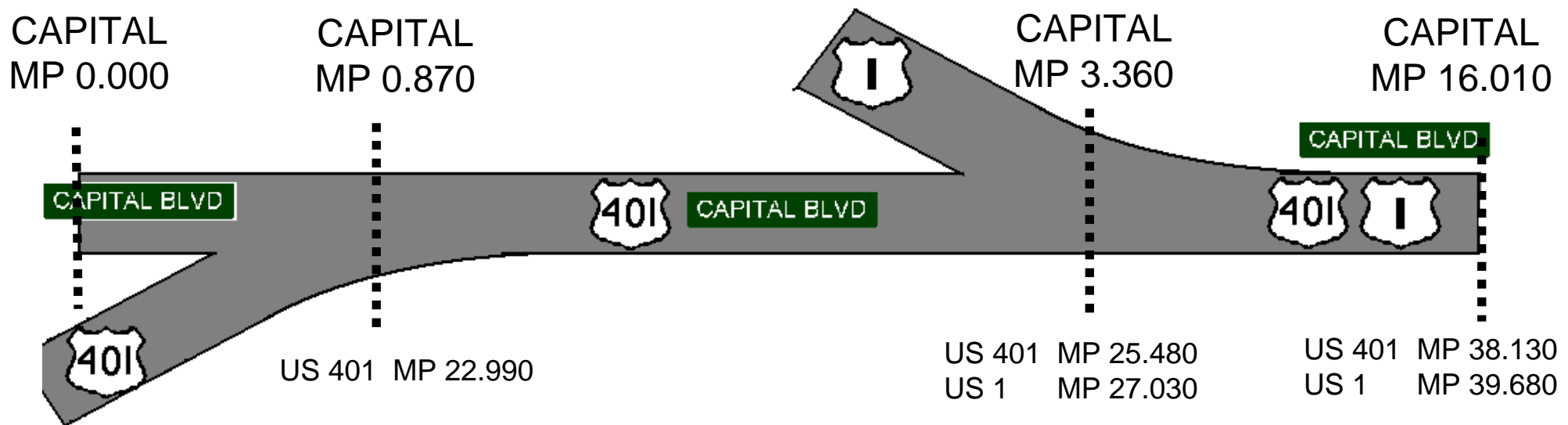
0 of 0

Step E

NOTE – If the dialog box reads **“The search returned: 0 record(s)”** it means that TEAAS could not find the route you entered in its list of high order routes (check your search criteria to verify that it was entered correctly).

# High Order Route Segments Report (Visual Representation)

County	Inventoried Route ID	Begin Milepost	End Milepost			
WAKE	50004906	0.0	16.01			
Segment Begin MP	Segment End MP	Segment HO Route	HO Route Begin MP	HO Route End MP	Inventoried Direction	MP Delta
0.000	0.870	50004906	0.000	0.870	Same	0.000
0.870	3.360	20000401	22.990	25.480	Same	22.120
3.360	16.010	20000001	27.030	39.680	Same	23.670



# Inventoried Routes

- Inventoried routes are routes that are currently recorded in TEAAS
- Access inventoried routes by selecting the following:



⇒ Inventoried Routes

# Inventoried Routes (cont.)

To search for Inventoried Routes

- Click the “**Search**” icon
- Enter search criteria
- Leave any criteria blank if they are not part of the search
- Click the “**GO**” icon

The screenshot shows the TEAAS - Inventoried Routes application window. The window title is "TEAAS - Inventoried Routes" and it has a menu bar with "Edit" and "Help". The main area is divided into several sections:

- Inventoried Route**: This section contains search criteria fields: "County" (a dropdown menu), "Inventoried Rte ID" (a text input field), "Begin Milepost" (a text input field), "End Milepost" (a text input field), and "Road Name" (a text input field).
- Features/HO Segments**: This section contains a dropdown menu, a "View" button, and an "Add" button.
- Reports**: This section contains two buttons: "Features Report" and "HO Segments Report".
- Last Update**: This section contains two text input fields: "User ID" and "Date/Time".

At the bottom of the window, there is a status bar with navigation arrows and a "0 of 0" indicator.

Annotations with arrows point to various elements:

- "Search Icon" points to the magnifying glass icon in the toolbar.
- "GO icon" points to the "GO" button in the toolbar.
- "Specify the county name" points to the "County" dropdown menu.
- "Specify the 8-digit road code (wildcard characters may be used to search for one or more Inventoried road codes). Refer to *Appendix D* for a description on the use of wildcard characters." points to the "Inventoried Rte ID" text input field.
- "Specify the beginning milepost" points to the "Begin Milepost" text input field.
- "Specify the ending milepost" points to the "End Milepost" text input field.
- "Road Name is not allowed as a search parameter" points to the "Road Name" text input field.



## Inventoried Routes (cont.)

- Click the “**OK**” button on the records retrieved dialog box to view the identified records
- If no records are returned, verify that the search criteria are correct
- A new search may be executed by adjusting the search criteria and clicking the “**GO**” icon
- TEAAS will display a maximum of 500 records for any given search (although more than 500 records may actually meet the search criteria)

# Inventoried Routes Example

Suppose you wanted to find out if SR 1010 in Wake County is an inventoried route...

Step A: Click on the “**Search**” icon

Step B: Enter the county name (Wake)

Step C: Enter the 8-digit code for the route (40001010)

Step D: Click the “**GO**” icon.

Step A

Step D

Step B

Step C

TEAAS - Inventoried Routes

Edit Help

Inventoried Route

County WAKE

Inventoried Route 40001010

Begin Milepost

End Milepost

Road Name

Features/HO Segments

View

Add

Reports

Features Report HO Segments Report

Last Update

User ID

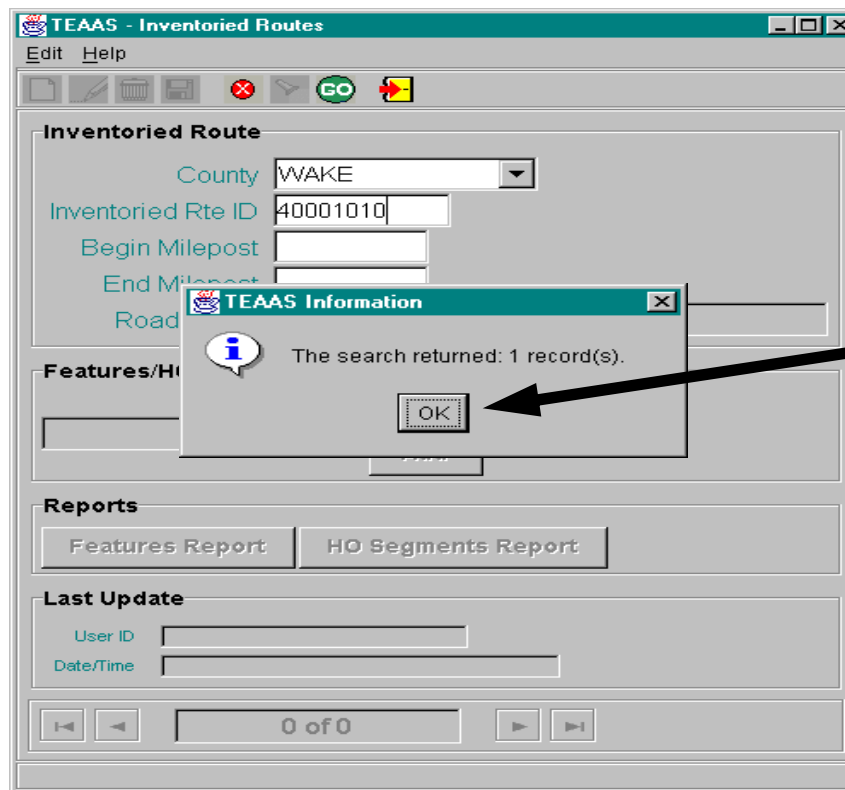
Date/Time

0 of 0

# Inventoried Routes Example (cont.)

You should get a dialog box that reads  
**“The search returned: 1 record(s)”**

Step E: Click on the **“OK”** button



Step E

If the dialog box reads **“The search returned: 0 record(s)”** it means that TEAAS could not find the route you entered in its list of inventoried routes (check your search criteria to verify that it was entered correctly).

# Inventoried Routes Example (cont.)

- Records show the county, 8-digit code (inventoried route ID), the beginning and ending mileposts, and the preferred text road name for all inventoried routes that met the specified criteria
- Records do not necessarily have mileposted features
- Possible additional data:
  - Features Report
  - HO Segments Report

Any available additional data will be in the Features Report and/or the High Order (HO) Segments Report

TEAAS - Inventoried Routes

Edit Help

Inventoried Route

County WAKE

Inventoried Rte ID 40001010

Begin Milepost 0.0

End Milepost 18.170

Road Name SR 1010

Features/HO Segments

View

Add

Reports

Features Report HO Segments Report

Last Update

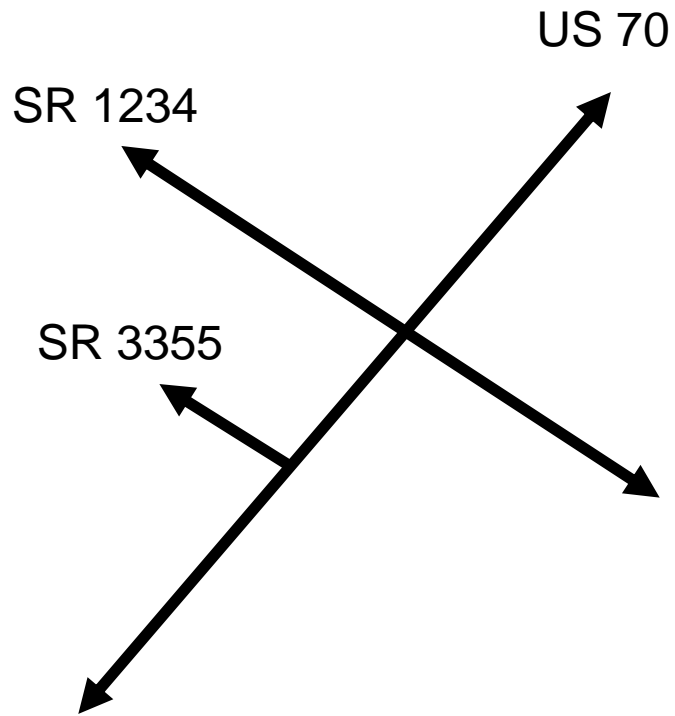
User ID TEAAS CONVERSION

Date/Time 08 October 1999 08:03 AM

1 of 1

# Route Changes

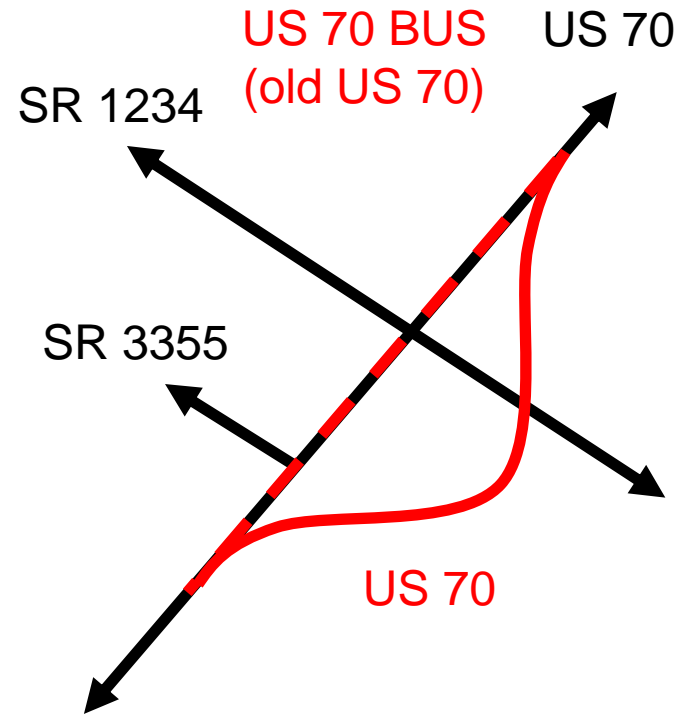
BEFORE:



Inventoried Routes:

US 70 (HO = US 70)

AFTER:



Inventoried Routes:

US 70 (HO = US 70)  
US 70 BUS (HO = US 70 BUS)  
US 70 (HO = US 70 BUS)

# Dummy Route

- Interstate 1 (10000001)
- Will not identify any crashes since the route does not exist
- All crashes (and features if a strip study) will need to be added
- Primarily used for studies that cross county lines or for a summary report of identified crashes