



April 2018

NPS Presentation at GAC  
Presentation on one of the  
Transportation Programs

# NPS Navigator 2.0

Navigator is a web map application intended to provide transportation planners and related officials in the NPS, DOI, and DOT with a suite of map overlays that depict NPS road infrastructure conditions along with contextual reference data (demographics, political boundaries, NPS regional boundaries, et al). For:

- Project Planning
- Information Reporting
- Performance Management

# FHWA Federal Lands Highway Office & The Road Inventory Program (RIP)



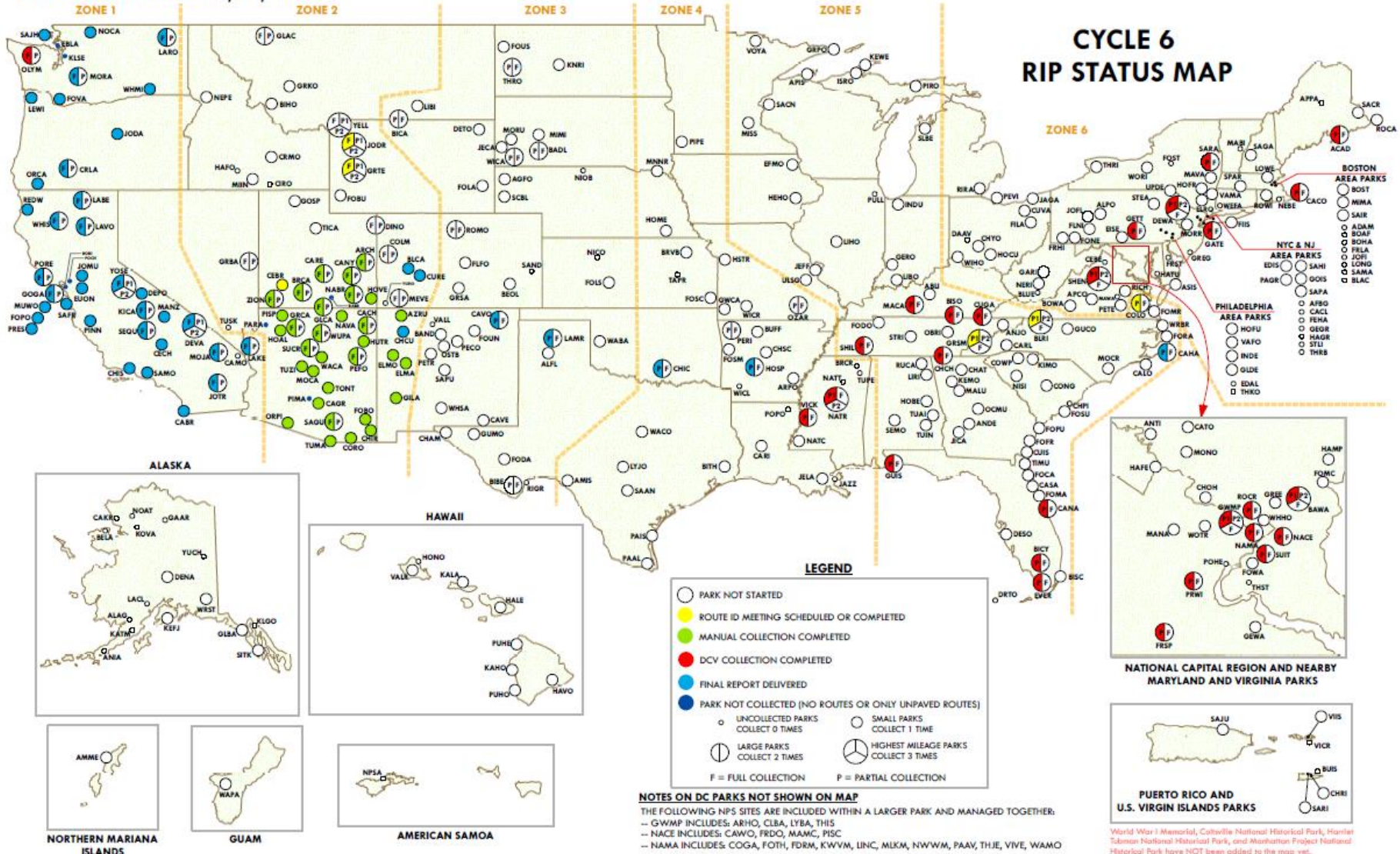
- Mid 1970's tasked to identify surface condition deficiencies and corrective priorities on NPS roads and parkways.
- Also tasked with establishing an integrated maintenance features inventory, locating features such as culverts, guardrails, signs etc.
- Thus entered into an MOA that Established the Road Inventory Program or RIP.

# The Road Inventory Program (RIP)

- In the 1990s, a cyclical program was developed that relied heavily on electronic data collection and computer technology.
- Cycles are a group of parks that will be Inventories over a period of time ranging from 3 to 8 years.
- In 2005, the FHWA began implementing the use of a Pavement Management System (PMS) to assist the NPS in prioritizing Pavement Maintenance and Rehabilitation activities (ex. Pavement Condition Rating or PCR).
- Currently on cycle 6 (2014 – 2020).

# NPS RIP Cycle 6

LAST UPDATED ON: 5/26/2016

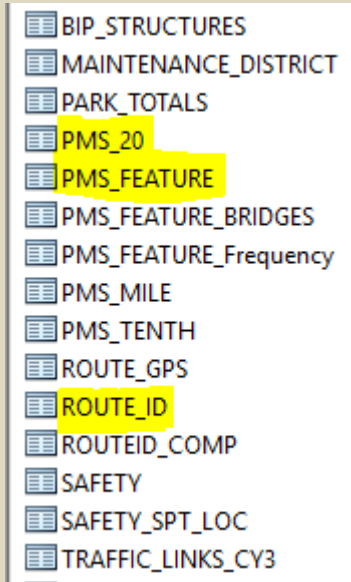


World War I Memorial, Carlisle National Historical Park, Harriet Tubman National Historical Park, and Manhattan Project National Historical Park have NOT been added to the map yet.

# The Road Inventory Program Data (RIP)

- RIP data delivered as a Geodatabase.
- Linearly referenced product.

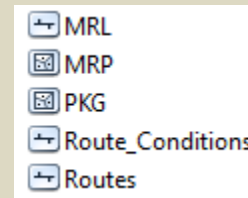
## Tables



BIP_STRUCTURES
MAINTENANCE_DISTRICT
PARK_TOTALS
PMS_20
PMS_FEATURE
PMS_FEATURE_BRIDGES
PMS_FEATURE_Frequency
PMS_MILE
PMS_TENTH
ROUTE_GPS
ROUTE_ID
ROUTEID_COMP
SAFETY
SAFETY_SPT_LOC
TRAFFIC_LINKS_CY3

- PMS\_20 – Pavement Management System info in intervals of .02 miles
- PMS\_FEATURES – Roadside features (Signs, retaining walls etc.) collected in C4 and C5 only based on funding.
- ROUTE\_ID – Route information by route records.

## Feature Classes



MRL
MRP
PKG
Route_Conditions
Routes

- MRL – Manually Rated Lines. Linear features that could not be collected by Data Collection Vehicle (DCV).
- MRP – Manually Rated Polygons, same as line.
- PKG – Parking polygons collected by the DCV.
- Route\_Condition – Linear referenced product derived from the Route feature class and the PMS\_20 table.
- Routes – Roads collected by the DCV.



# Navigator Home page

<https://navigator.nps.gov/>

As of March 2018

National Park Service Legend Basemap Gallery Road View Grid View About Contact RIP Cycle Search Park...

- Roads
- Park Boundaries
- Bridge Inspection Program
- Crashes
- Demographics
- Federal Boundaries
- Traffic Count
- Congressional Districts
- Political Boundaries

Esri HERE, DeLorme, NGA, USGS

# Navigator 2.0

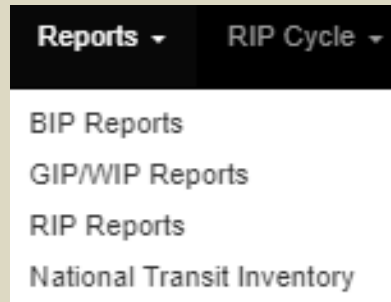
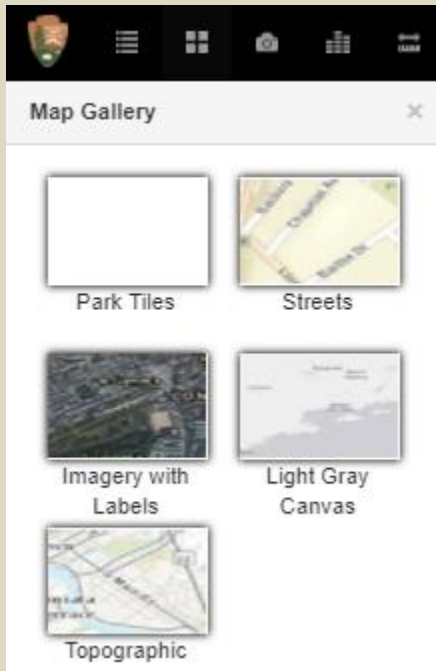
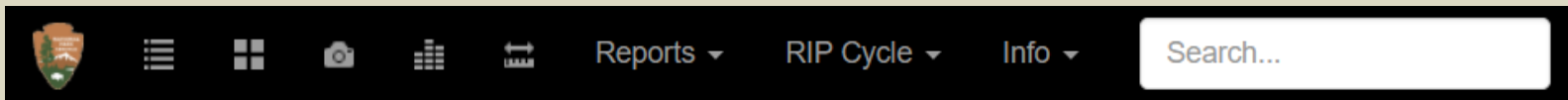
- Use Case – Live Demo using Yellowstone
  - The following are items to be shown.
    - Data Sources
    - User control for sources – Legend (toggle)
    - RIP Cycle
      - Cycle 4, Cycle 5, Cycle 6 and aggregate
    - Road View
    - Query tool
    - Reports
    - Search tool



# Navigator – B/U material

- I will use the live site, but the following slides are for back up support if needed if the internet is down.

# Menu Bar




















# Legend Features







- Bridge Inspection Program
- Federal Boundaries
- Traffic Count
- Park Boundaries
- Crashes
- Roads Aggregate
- Guardrail Wall Inventory Program
- Political Boundaries
- Demographics

- Bridge Inspection Program
- Federal Boundaries
- Traffic Count
- Park Boundaries
  - National Park Service Labels
  - National Park Service Boundaries
- Crashes
- Roads Aggregate
  - Pavement Condition
    - Not Rated (-1)
    - Poor (1 - 60)
    - Fair (61 - 85)
    - Good (86 - 95)
    - Excellent (96 - 100)
  - Manually Rated Routes
  - Paved Routes
- Guardrail Wall Inventory Program
- Political Boundaries
- Demographics

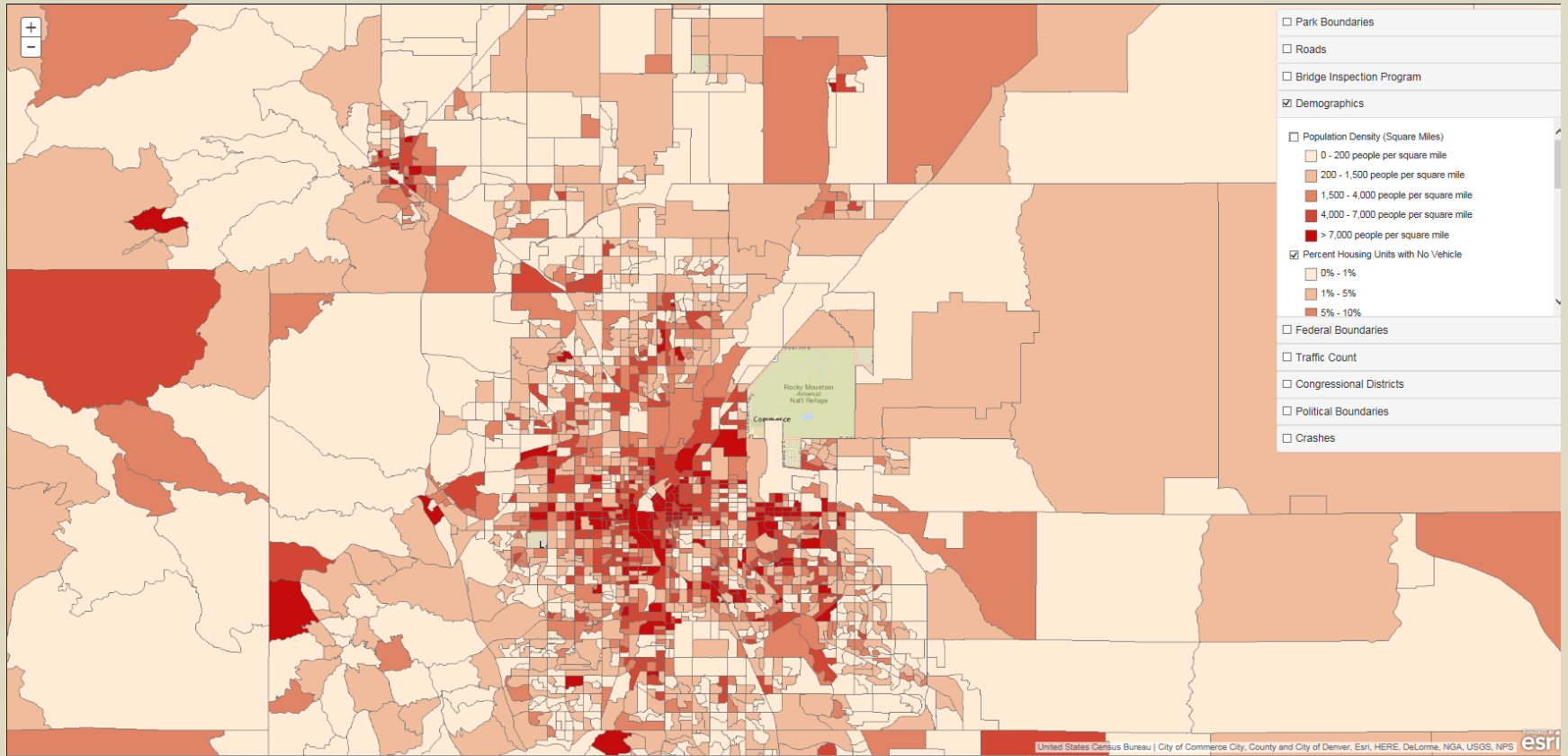
# Legend Features Cont.

- Bridge Inspection Program
- Federal Boundaries
  - Surface Management Agency
    -  Bureau of Land Management
    -  Forest Service
    -  Fish and Wildlife Service
    -  Bureau of Indian Affairs
    -  Army Corps of Engineers
    -  Other Federal Lands
- Traffic Count
- Park Boundaries
- Crashes
- Roads Aggregate
- Guardrail Wall Inventory Program
- Political Boundaries
- Demographics
  - Population Density (Square Miles)
    -  0 - 200 people per square mile
    -  200 - 1,500 people per square mile
    -  1,500 - 4,000 people per square mile
    -  4,000 - 7,000 people per square mile
    -  > 7,000 people per square mile
  - Percent Housing Units with No Vehicle

- Bridge Inspection Program
- Federal Boundaries
- Traffic Count
  - Traffic Count Site
    -  Permanent
    -  Portable
- Park Boundaries
- Crashes
- Roads Aggregate
- Guardrail Wall Inventory Program
- Political Boundaries
  - NPS Regions
    - 
  - States
    - 
  - Congressional Districts
    - 
  - Counties
    - 
- Demographics

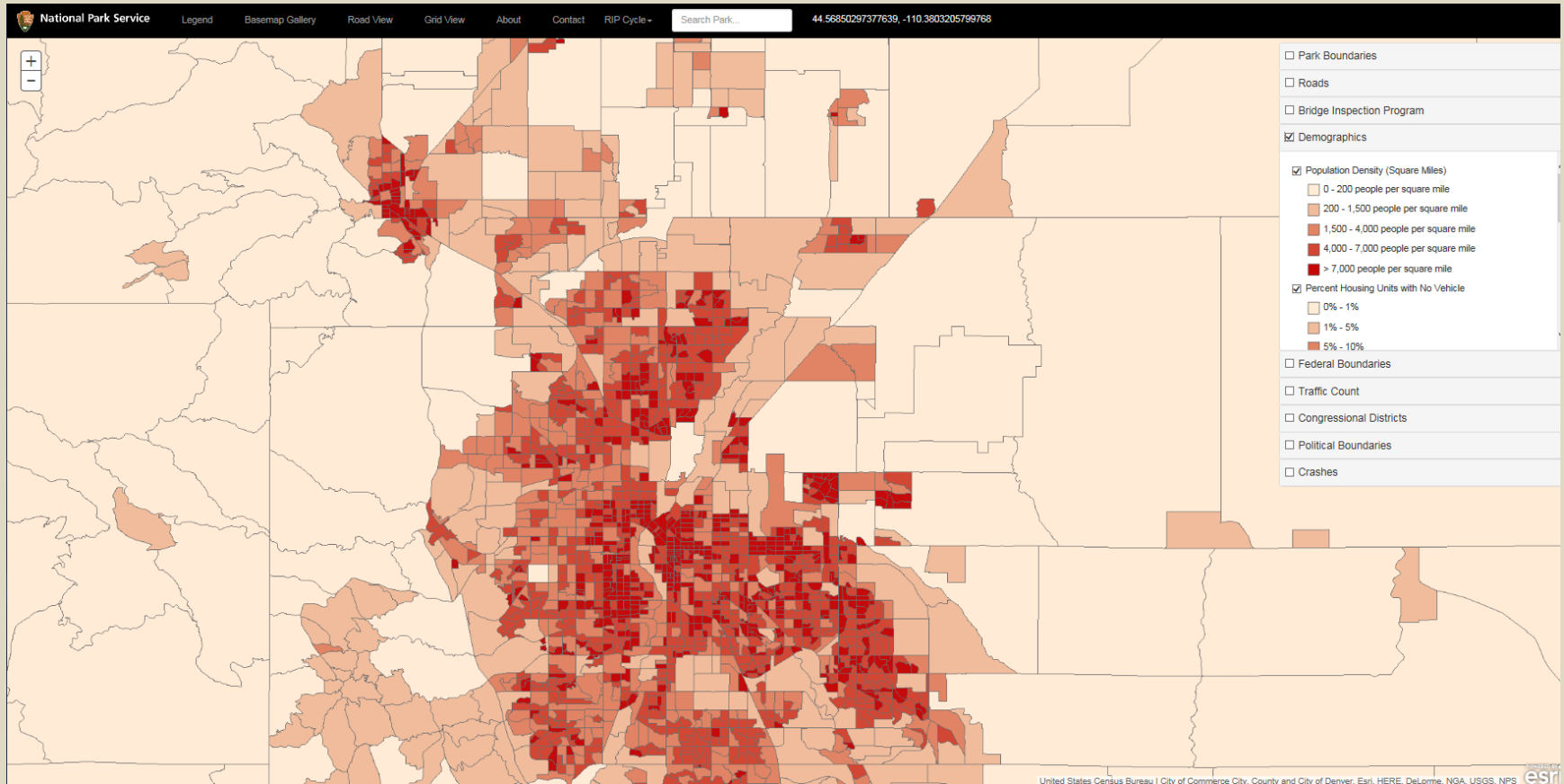
- Bridge Inspection Program
- Federal Boundaries
- Traffic Count
- Park Boundaries
- Crashes
  - Geolocated Crashes
    -  Fatal
    -  Injury
    -  PD Only
    -  None
- Roads Aggregate
- Guardrail Wall Inventory Program
  - Guardrail
    - 
  - Guard/Retaining Wall
    - 
- Political Boundaries
- Demographics

# Demographics - % Housing

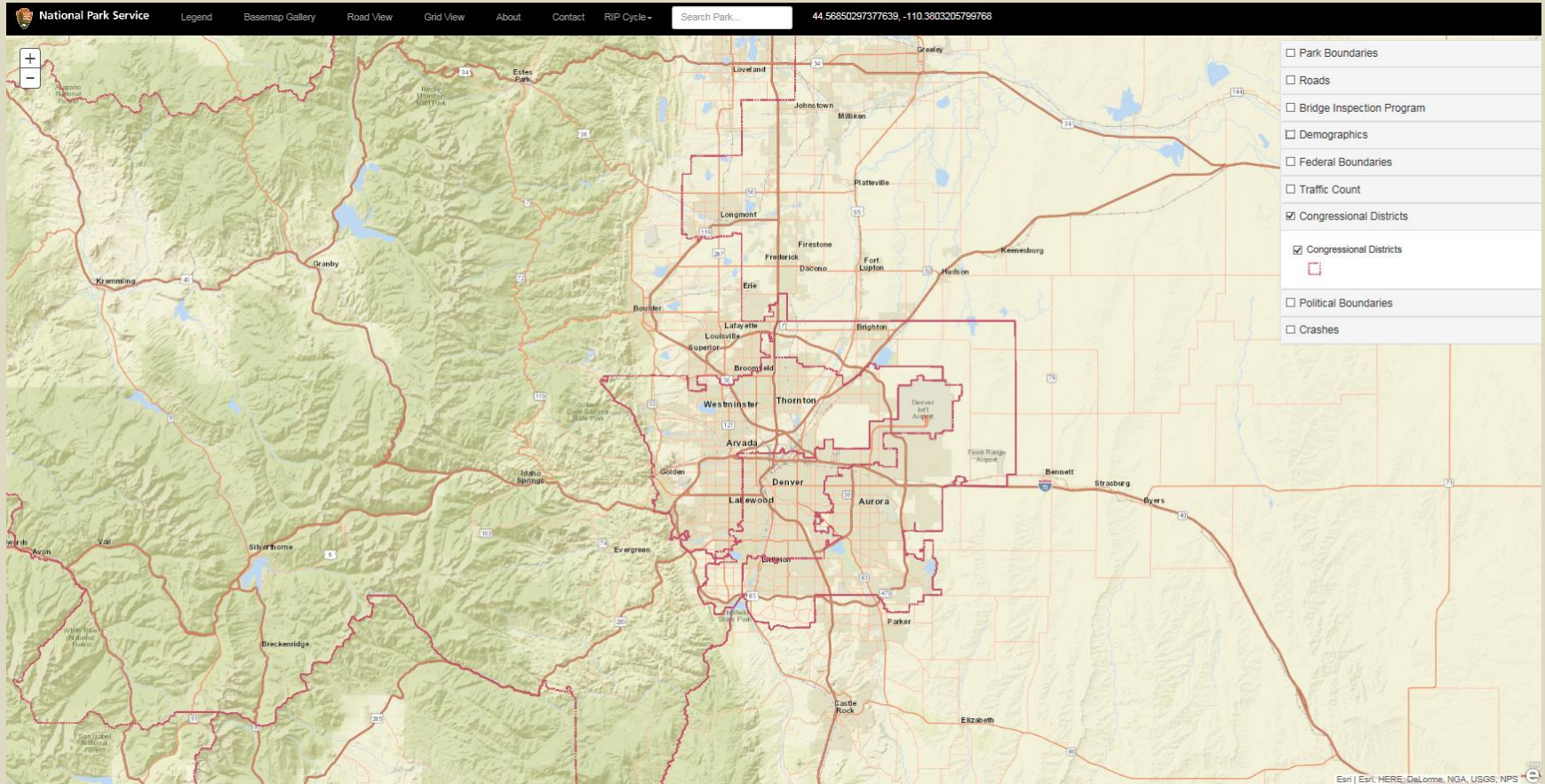




# Demographics – Population Density

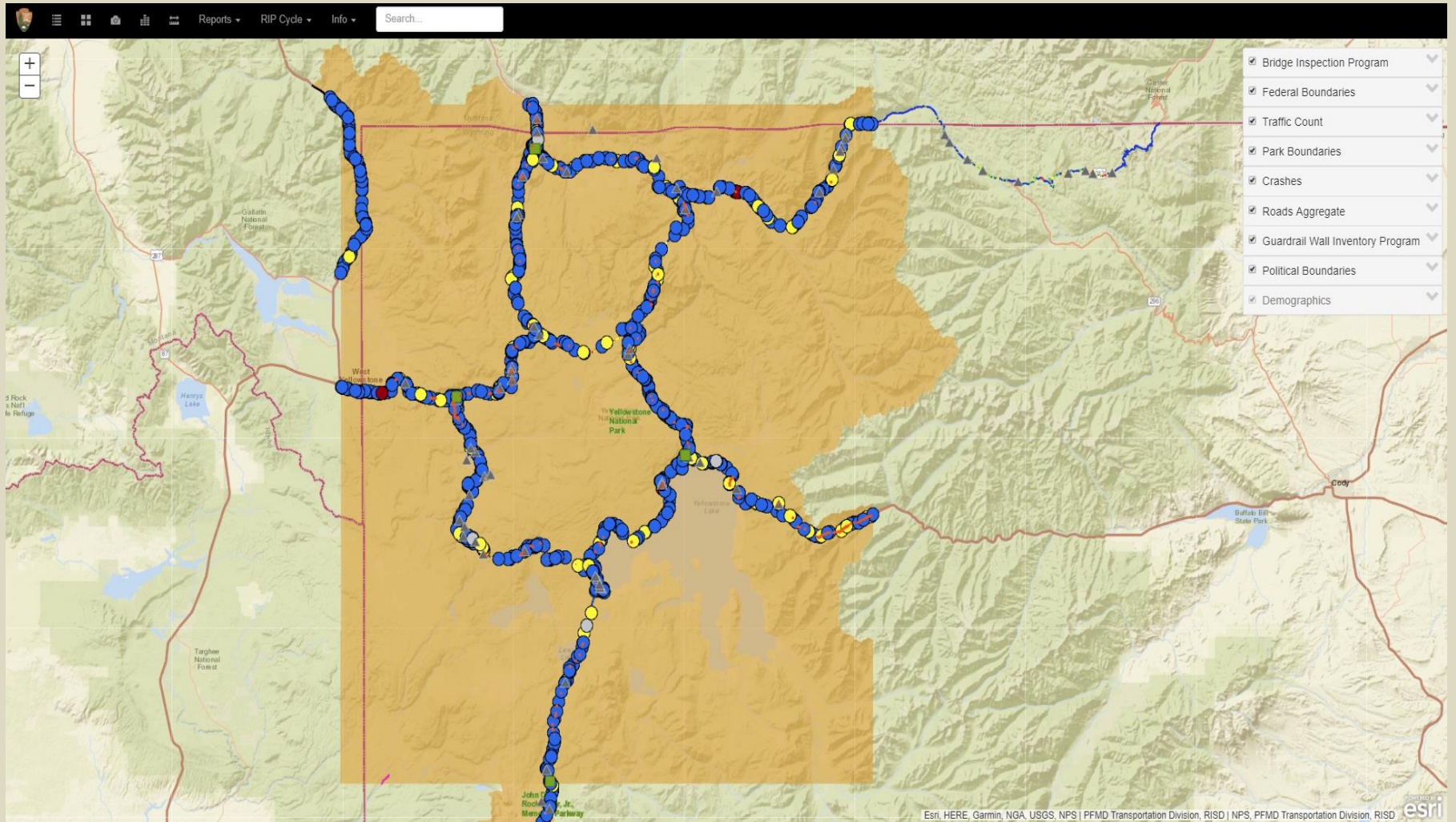


# Congressional Districts

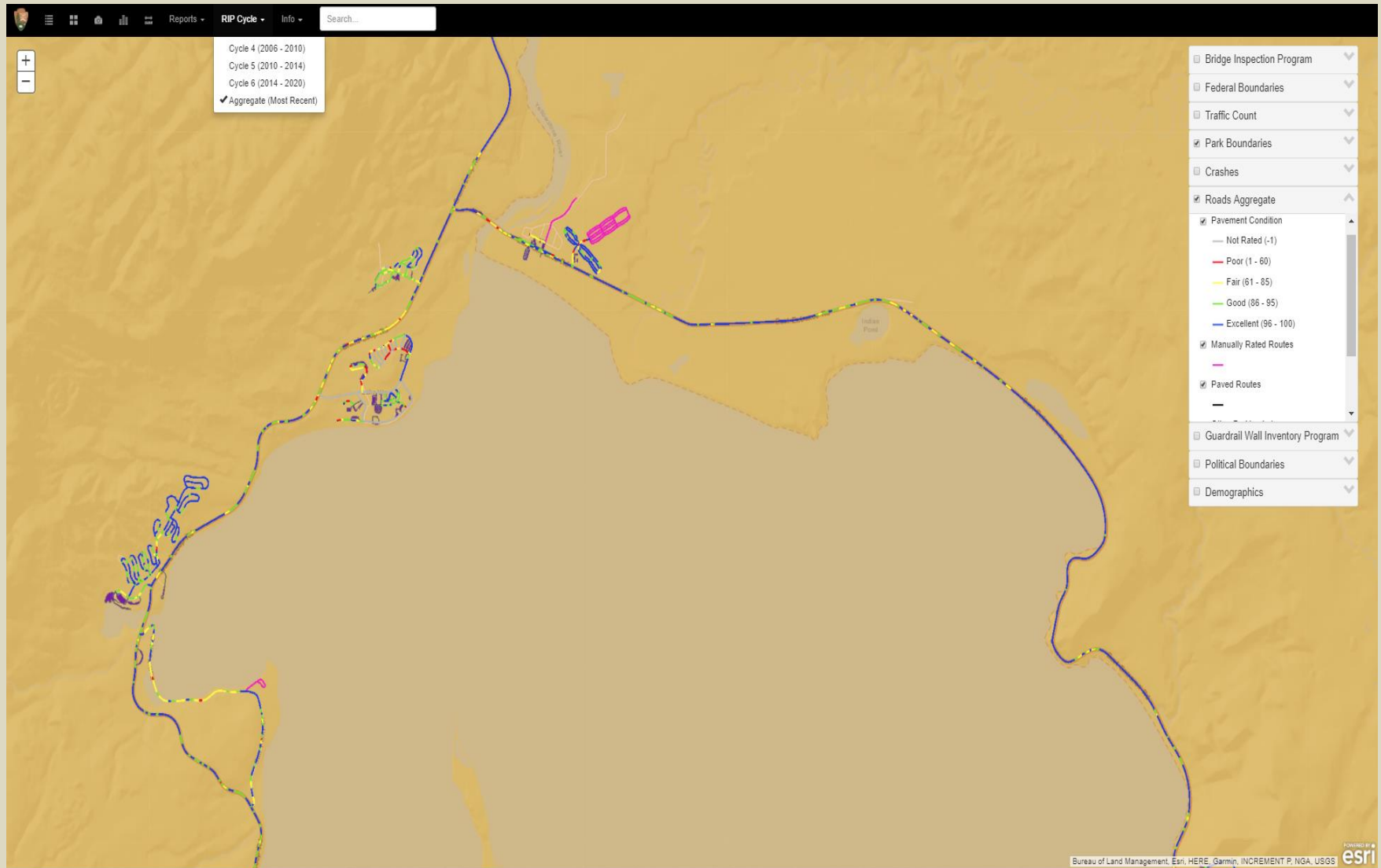




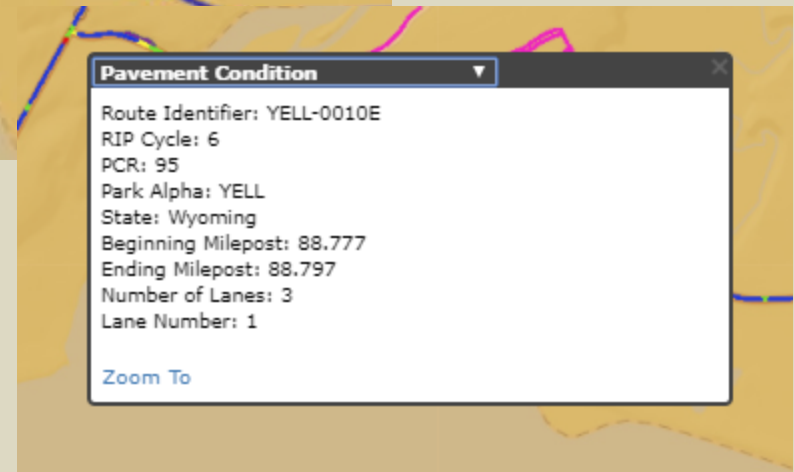
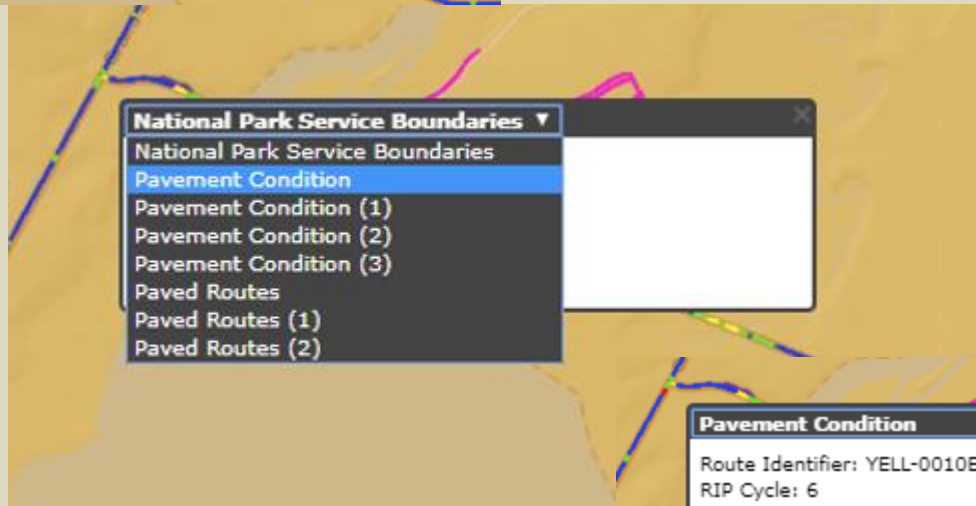
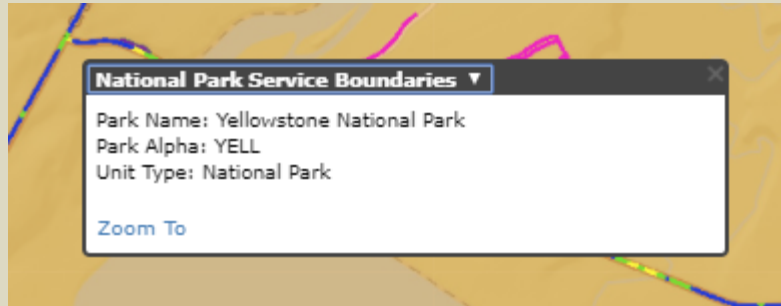
# Select a Park



# Road conditions - Rip Cycle

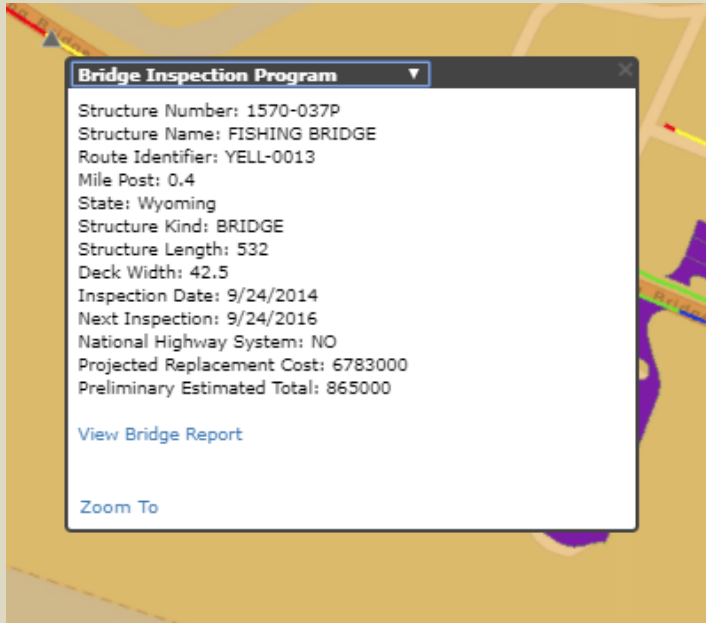


# Detail pop-up





# Detail pop-up

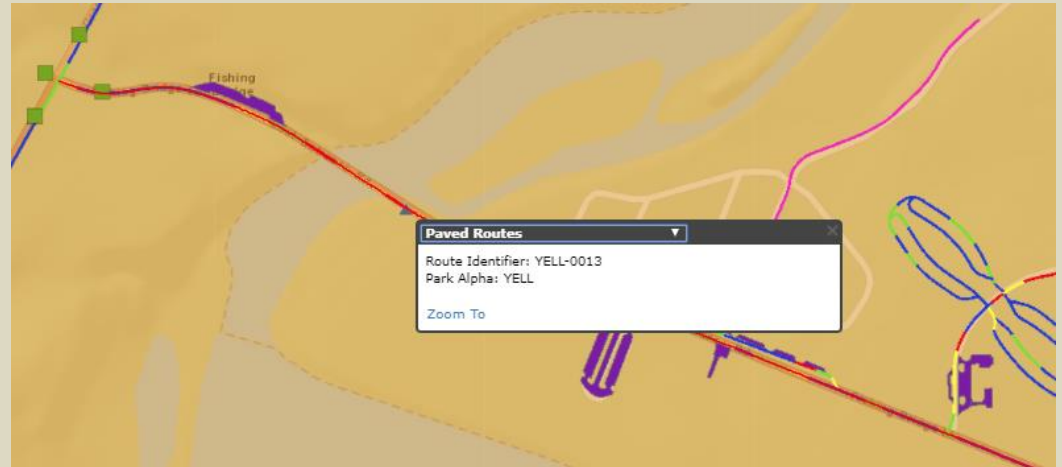


**Bridge Inspection Program**

Structure Number: 1570-037P  
Structure Name: FISHING BRIDGE  
Route Identifier: YELL-0013  
Mile Post: 0.4  
State: Wyoming  
Structure Kind: BRIDGE  
Structure Length: 532  
Deck Width: 42.5  
Inspection Date: 9/24/2014  
Next Inspection: 9/24/2016  
National Highway System: NO  
Projected Replacement Cost: 6783000  
Preliminary Estimated Total: 865000

[View Bridge Report](#)

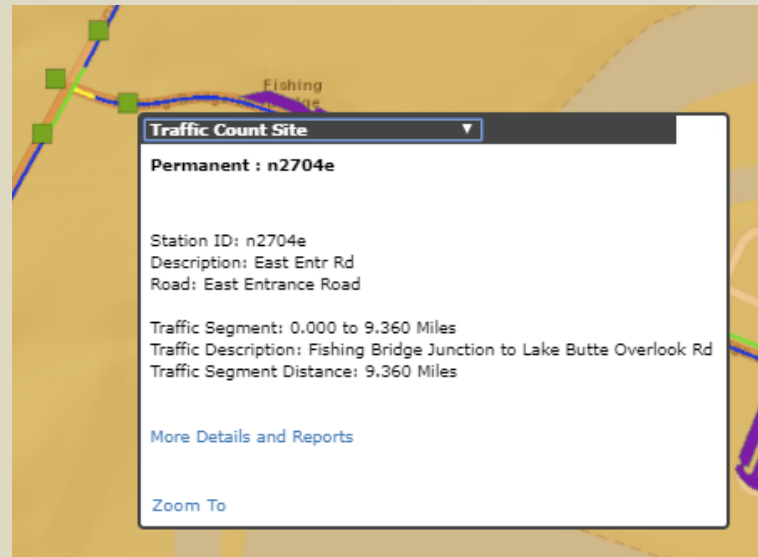
[Zoom To](#)



**Paved Routes**

Route Identifier: YELL-0013  
Park Alpha: YELL

[Zoom To](#)



**Traffic Count Site**

**Permanent : n2704e**

Station ID: n2704e  
Description: East Entr Rd  
Road: East Entrance Road

Traffic Segment: 0.000 to 9.360 Miles  
Traffic Description: Fishing Bridge Junction to Lake Butte Overlook Rd  
Traffic Segment Distance: 9.360 Miles

[More Details and Reports](#)

[Zoom To](#)

# Road View


YELL-0010E, MP 88.777

BEG MP	End MP	Route Length	Number of Lanes	Lane Width	Paved Width	Surface Type	PCR	RCI	SCR	IRI Avg	Rut Index	F
88.497	88.517000000000001		2	10.3	29.900000000000002	AS	98	100	96	58.2	96	0
88.517000000000001	88.537		2	10.3	29.900000000000002	AS	99	100	99	62.2	99	0
88.537	88.557		2	10.3	29.900000000000002	AS	100	100	100	61.800000000000004	100	0
88.557	88.577		2	10.3	29.900000000000002	AS	96	100	93	54.6	96	0
88.577	88.597000000000001		2	10.3	29.900000000000002	AS	95	100	91	83.4	91	0
88.597000000000001	88.617		2	10.3	29.900000000000002	AS	98	100	96	84.2	98	0
88.617	88.637		2	10.3	29.900000000000002	AS	98	100	97	76.4	97	0
88.637	88.657000000000001		2	10.3	29.900000000000002	AS	98	100	97	112.2	97	0
88.677	88.697		2	10.3	29.900000000000002	AS	99	100	99	56	99	0
88.697	88.717		2	10.3	29.900000000000002	AS	98	100	97	71.8	97	0
88.717	88.737000000000001		2	10.3	31.900000000000002	AS	100	100	100	85.600000000000001	100	0
88.737000000000001	88.757		2	13.6	37.2	AS	99	100	98	95.5	98	0
88.757	88.777		2	17.3	41.2	AS	97	96	98	124	98	0
88.777	88.797000000000001		3	10.6	45.800000000000004	AS	95	100	91	83.9	91	0


# Road viewer – Auto scroll

Reports RIP Cycle Info

YELL-0013, MP 0.200



⏪ ⏹ ⏩



- Bridge Inspection Program
- Federal Boundaries
- Traffic Count
- Park Boundaries
- Crashes
- Roads Aggregate
- Guardrail Wall Inventory Program
- Political Boundaries
- Demographics

BEG MP	End MP	Route Length	Number of Lanes	Lane Width	Paved Width	Surface Type	PCR	RCI	SCR	IRI Avg	Rut Index	F
0.2	0.22		2	11.5	32.3	AS	71	46	88	301.7	98	0
0.22	0.24		2	11.5	32.3	AS	92	88	95	147	95	0
0.24	0.26		2	11.5	32.3	AS	89	87	91	148.700000000000002	91	0
0.26	0.28		2	11.5	32.3	AS	53	19	76	525.6	76	0
0.28	0.3		2	11.5	32.3	AS	49	30	62	404.3	62	0
0.3	0.32		2	11.5	32.3	AS	64	35	84	370.8	84	0
0.32	0.34		2	11.5	32.3	AS	71	48	86	296.1	86	0
0.34	0.36		2	11.5	32.3	AS	68	45	83	308.2	83	0
0.36	0.38		2	11.5	32.3	AS	52	18	74	536.8	74	0
0.4	0.42		2	11.5	32.3	AS	90	96	86	125.4	86	0
0.42	0.44		2	11.5	32.3	AS	68	48	82	291.400000000000003	82	0
0.44	0.46		2	11.5	32.3	AS	91	98	87	119.7	87	0
0.46	0.48		2	11.5	32.3	AS	75	56	88	256.9	88	0
0.48	0.5		2	11.5	32.3	AS	97	99	95	116.4	95	0

# Grid View - Category

The screenshot displays an ArcGIS web application interface. At the top, there is a navigation bar with a search field and menu options like 'Reports', 'RIP Cycle', and 'Info'. Below the navigation bar is a map area showing a terrain map with a grid overlay and several colored lines representing different features. A legend on the right side of the map is open, showing a list of categories. The 'Bridge Inspection Program' category is selected and highlighted in blue. Below the map is a data table with the following columns: Structure Number, Structure Name, Route Ident, RIP cycle, Park Alpha, Mile Post, State, Structure Kind, Structure Length, and Deck Width. The table is currently empty. At the bottom of the interface, there is a footer with the text 'Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS | PFMD Transportation Division, RISO' and the Esri logo.

Structure Number	Structure Name	Route Ident	RIP cycle	Park Alpha	Mile Post	State	Structure Kind	Structure Length	Deck Width	Ins
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- Bridge Inspection Program
- Bridge Inspection Program
- Congressional Districts
- Counties
- Geolocated Crashes
- Guard/Retaining Wall
- Guardrail
- Manually Rated Areas
- Manually Rated Routes
- NPS Regions
- National Park Service Boundaries
- National Park Service Labels
- Other Parking Lots
- Pavement Condition
- Percent Housing Units with No Vehicle
- Percent Minority Population (including Hispanic White)
- Percent Minority Population (not including Hispanic White)
- Percent of Population Below Poverty Line
- Population Density (Square Miles)
- States
- Surface Management Agency

Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, NGA, USGS | PFMD Transportation Division, RISO

# Grid View – Select Area

National Park Service Legend Basemap Gallery Road View Grid View About Contact RIP Cycle Search Park... 44.56850297377639, -110.3803205799768

Select Query 1 Results

NPS_UNIT_BOUNDARIES.OBJECTID	NPS_UNIT_BOUNDARIES.GlobalID	NPS_UNIT_BOUNDARIES.PARK_ALPHA	NPS_UNIT_BOUNDARIES.GIS_NOTES	NPS_UNIT_BOUNDARIES.DATE_EDIT	NPS_UNIT_BOUNDARIES.CREATED_BY
136	{CE668059-7D72-4C27-9A6F-A34C67AAEE86}	YELL	Lands - <a href="http://landsnet.nps.gov/tractsnet/documents/YELL/Metada">http://landsnet.nps.gov/tractsnet/documents/YELL/Metada</a>	1208908800000	Lands



# Traffic Count - Location and Stats

The screenshot shows a web application interface for the National Park Service. At the top, there is a navigation bar with the National Park Service logo, a search bar, and various menu items. The main area is a map of Yellowstone National Park with several traffic count sites marked by colored dots (blue, yellow, red). A red dashed box highlights one of the sites. On the right side, there is a legend with various map layers checked, including 'Traffic Count'. Below the map, there is a table with 3 results for 'Traffic Count Site'.

OBJECTID	Shape	site_ownerid	site_ismvirtual	site_loggerid	site_parentid
181		n2704n	1		
182		n2704s	1		
183		n2704e	1		