

*Developing Regional Solutions*



**SEMCOG**

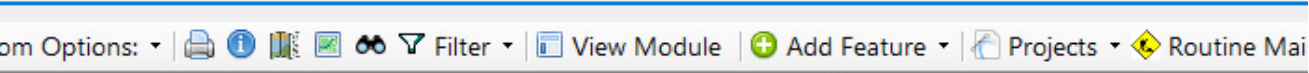
Southeast Michigan Council of Governments

# Federal Aid and Non-Federal Aid Data Handling

Edward Hug  
SEMCOG

RUCUS 2021

# SEMCOG Region



- 7 Counties
- 25,200 centerline miles of public road
- 8,332 miles federal aid eligible
- 2 partner planning agencies
  - WATS
  - SCCOTS

# Roadsoft Setup

- Remote Desktop Environment
  - Tested and deployed in 2017/2018
  - All\* desktop apps are in the cloud
- Pro – Internet access = work access
- Con – Not workable with Roadsoft
- \*IT moved Roadsoft to my laptop's desktop

# COVID-19

## *Game Changer*

- SEMCOG went to remote work-only on March 13, 2020
- No FA PASER data collection in 2020
- Other work continued
- Roadsoft workflow changed
  - Desktop setup not workable
  - “Golden” copy moved to remote server
  - Local copy on my home machine

# Roadsoft Database Comparison

## **SLOW**

- “Golden” Copy
- Fully supported by SEMCOG’s IT department
- “Does it work?”, Yes

## **FAST**

- Working copy of Roadsoft
- Local version
- Self-supported, IT aware
  - Real work
  - Real NAS
- Workflow and checks

# Data Collection Process

# Data Collection Expectation

## Federal Aid

- Known process
- Work well with PASER data collection process
- Coordinate early and often

## Local

- Active solicitation through grant program
- Passive sharing through planning partners
- Not sure what I am going to get



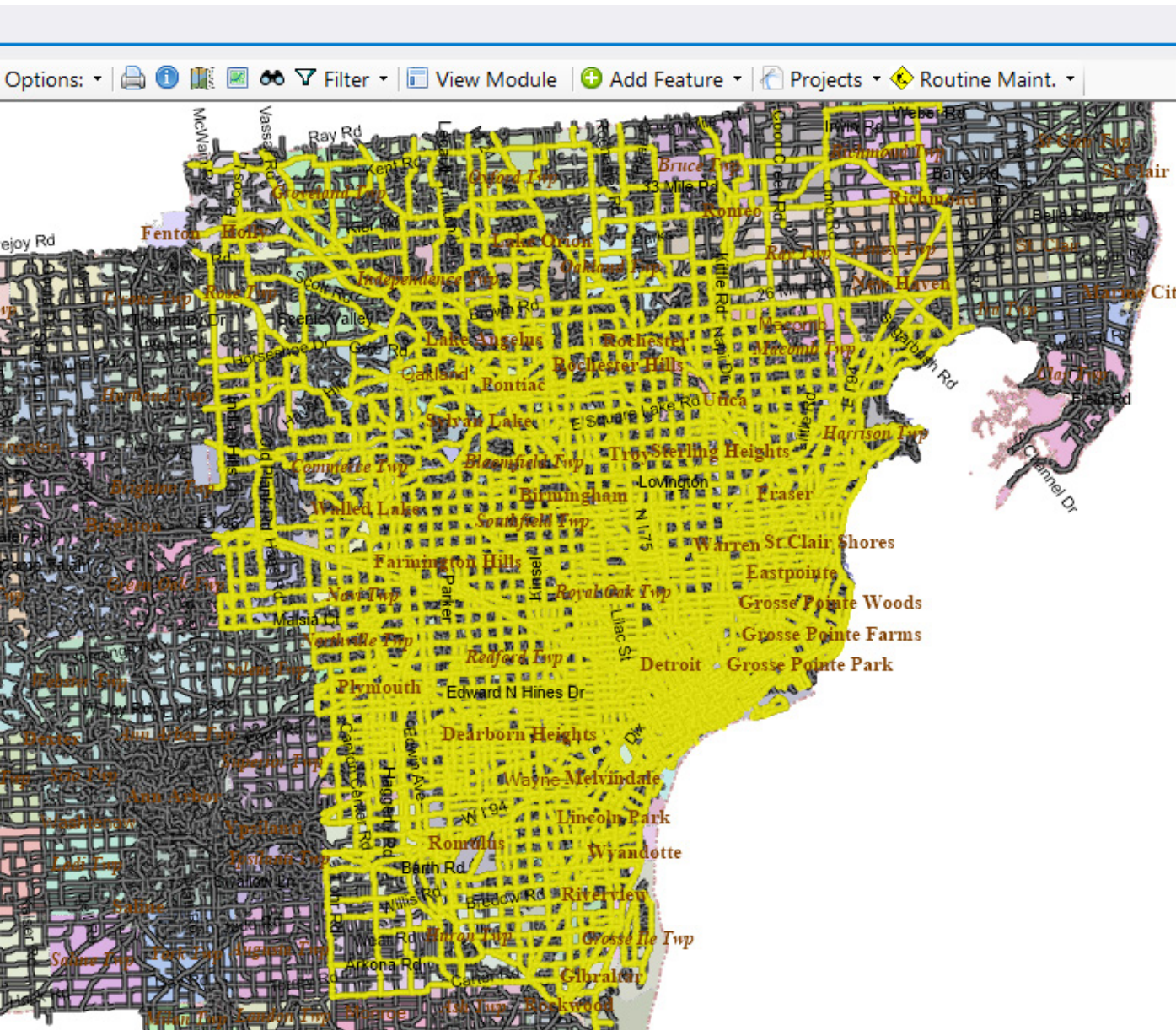
# 2021 Federal Aid Data Collection

- 5 Counties
  - Livingston, Macomb, Monroe, Oakland, Wayne
  - City of Detroit
- 2 Partner Agencies
  - Washtenaw Area Transportation Study
  - St. Clair County Transportation Study
- Requires parallel rating crews
  - Estimated 90 days to collect
  - 103 work days from July 1 to November 26

# Consistent Experience for Raters

- Laptop Data Collector
  - Roadsoft Data
    - » <Community>
      - LDCtoRS
      - RStoLDC
- SEMCOG Network
  - aPASER
    - » <User>
      - <Date> or <Community>

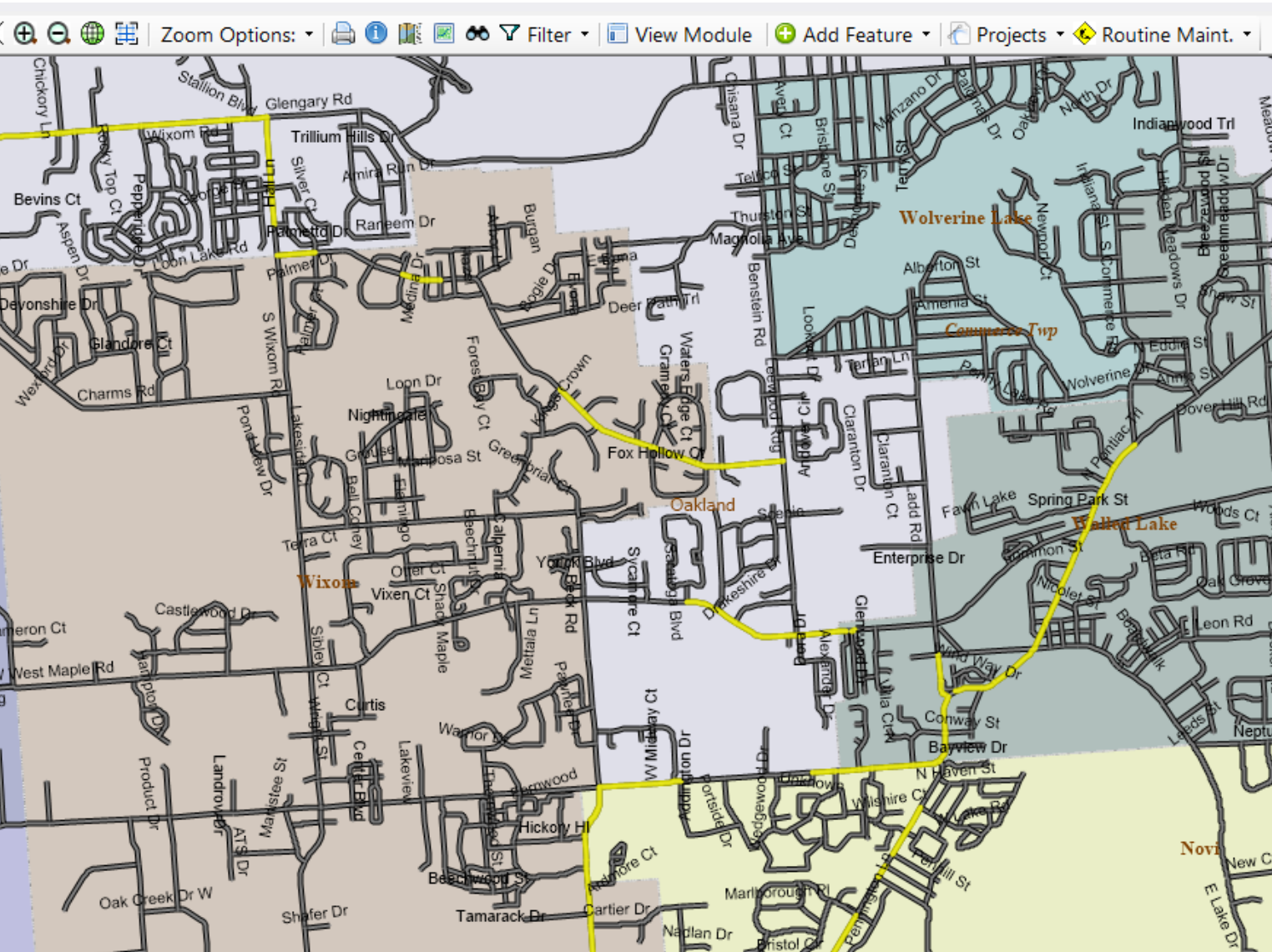
## Large Counties



- Macomb
  - Oakland
  - Wayne
  - Detroit
- 
- 5,500 of 8,300 FA miles
  - Only schedule 4 days per week



# LDC Large County Issues



- LDC had trouble with 50% FA networks
  - Delay entering data
  - GPS skips
- Anticipated greater issues with 100% FA networks
- “Houston, we have a problem!”

# Solution = “Shoot for Zero”

Group	Field	Operator	Value(s)
1	County	=	Oakland
1	Federal-aid	=	Yes
1	Surface Type	=	Undefined
2	County	=	Oakland
2	Federal-aid	=	Yes
2	Surface Type	=	Asphalt or Brick or Concrete or Seal Coat
2	Last PASER Rating Year	<>	2021
3	County	=	Oakland
3	Federal-aid	=	Yes
3	Surface Type	=	Earth or Gravel
3	Last IBR Rating Year	<>	2021

Criteria

County = Oakland  
Federal-aid = Yes  
Surface Type = Undefined  
--- OR ---  
County = Oakland  
Federal-aid = Yes

No Records for criteria found.

- LDC data exported nightly
- Reimported with saved Roadsoft filter ‘2021 Oakland FA Day 2+’
- Ratable network shrinks automatically
- Performance improved after ~2 weeks

# Workable Solution

- Network gets smaller, performance improves
- Know when you hit 0.000 miles, you are done
- Minor issue
- Wayne County didn't exclude gravels
  - Fixed with v2021.10
  - Last PASER Year/Last IBR Year
- Cleanup a little more difficult

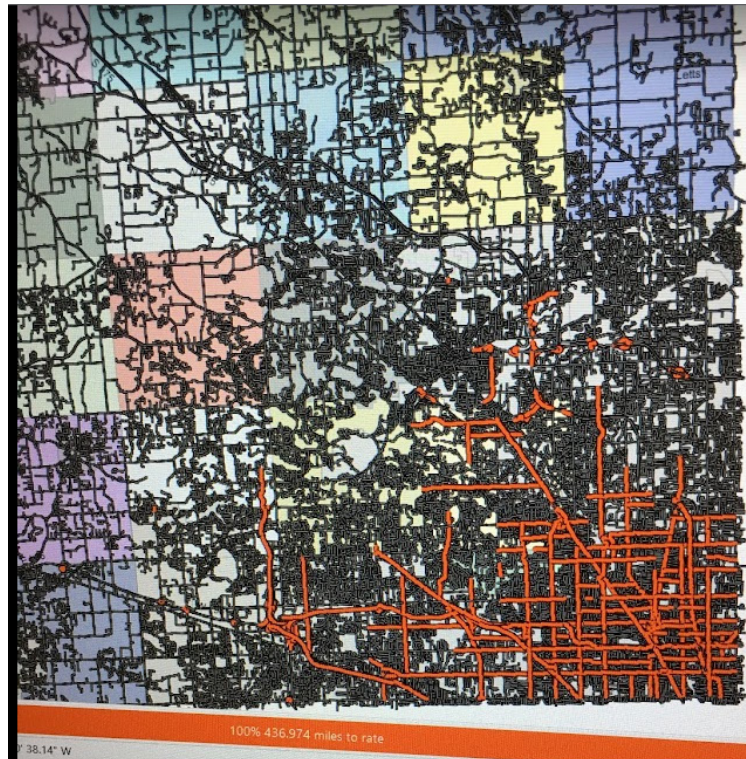
# Big County Issues

- Multiple people
- Multiple agencies
- Lots of combinations of raters
- Seek out easy hits, not realizing
  - Construction
  - Inaccessible areas

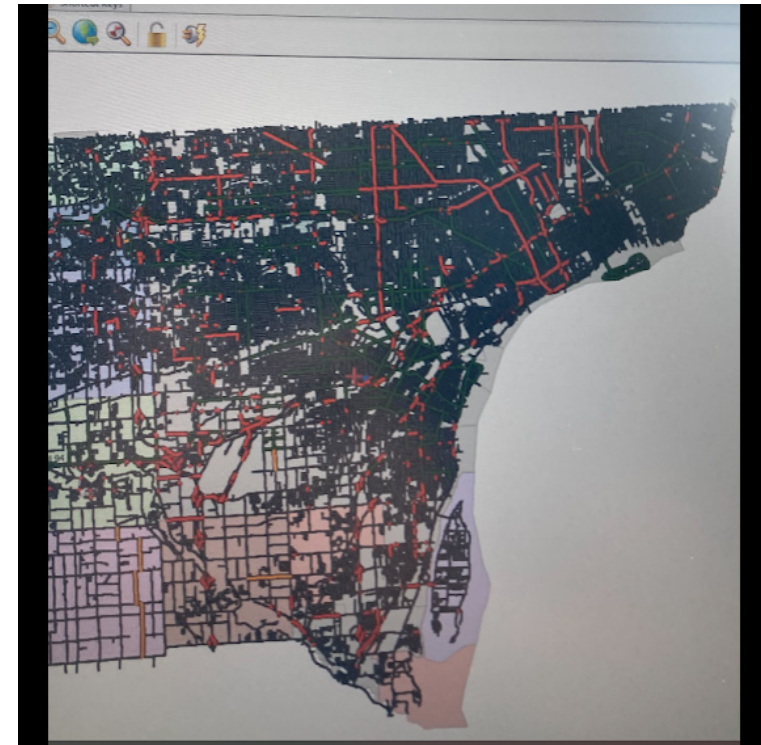


# Rating Efficiency

## Oakland

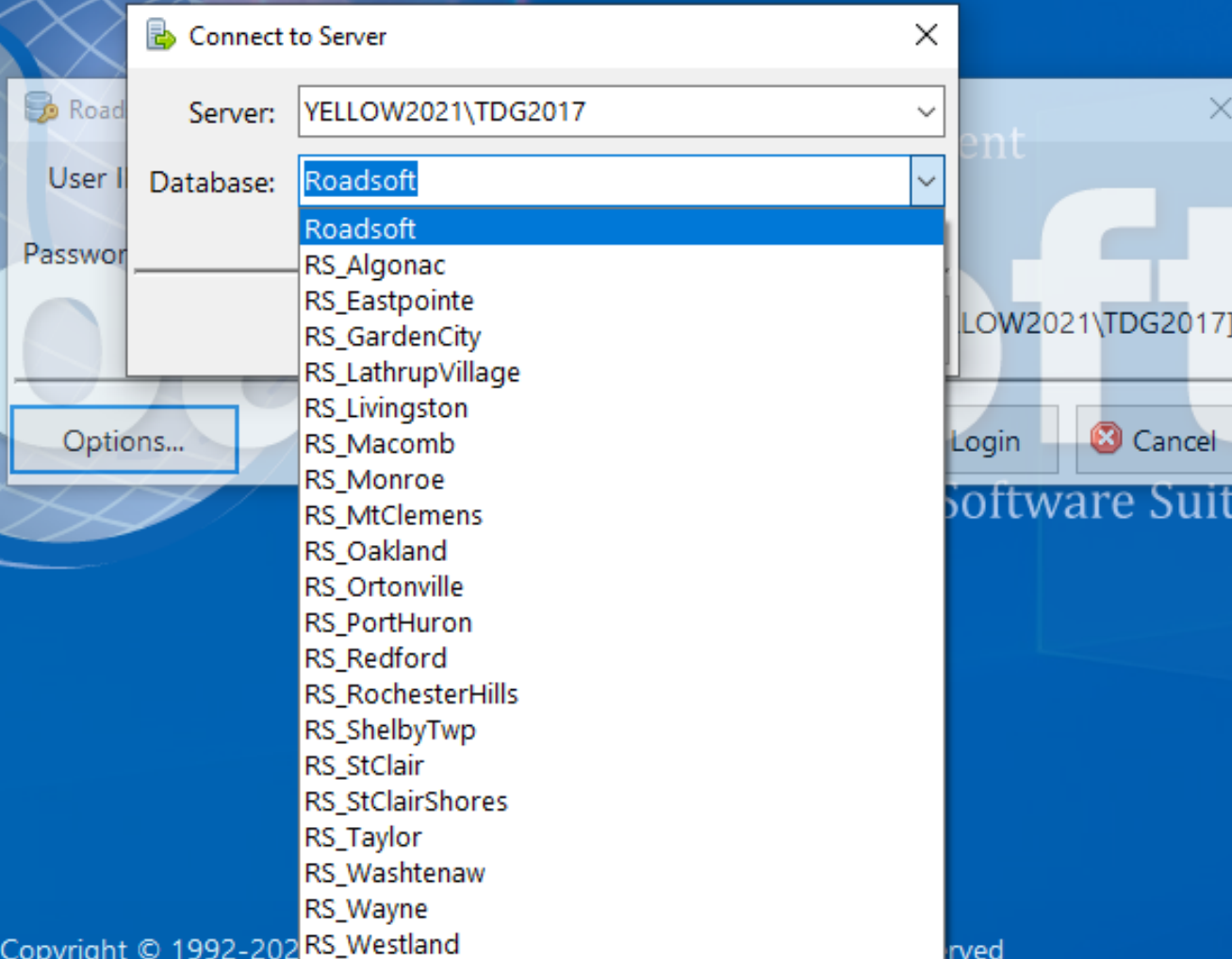


## Wayne





# Quality Control



- All data gets imported to a blank database
- Break out:
  - Unknown
  - Paved
  - Gravel
- “Check for Unrated Segments” speeds up process

# Check process

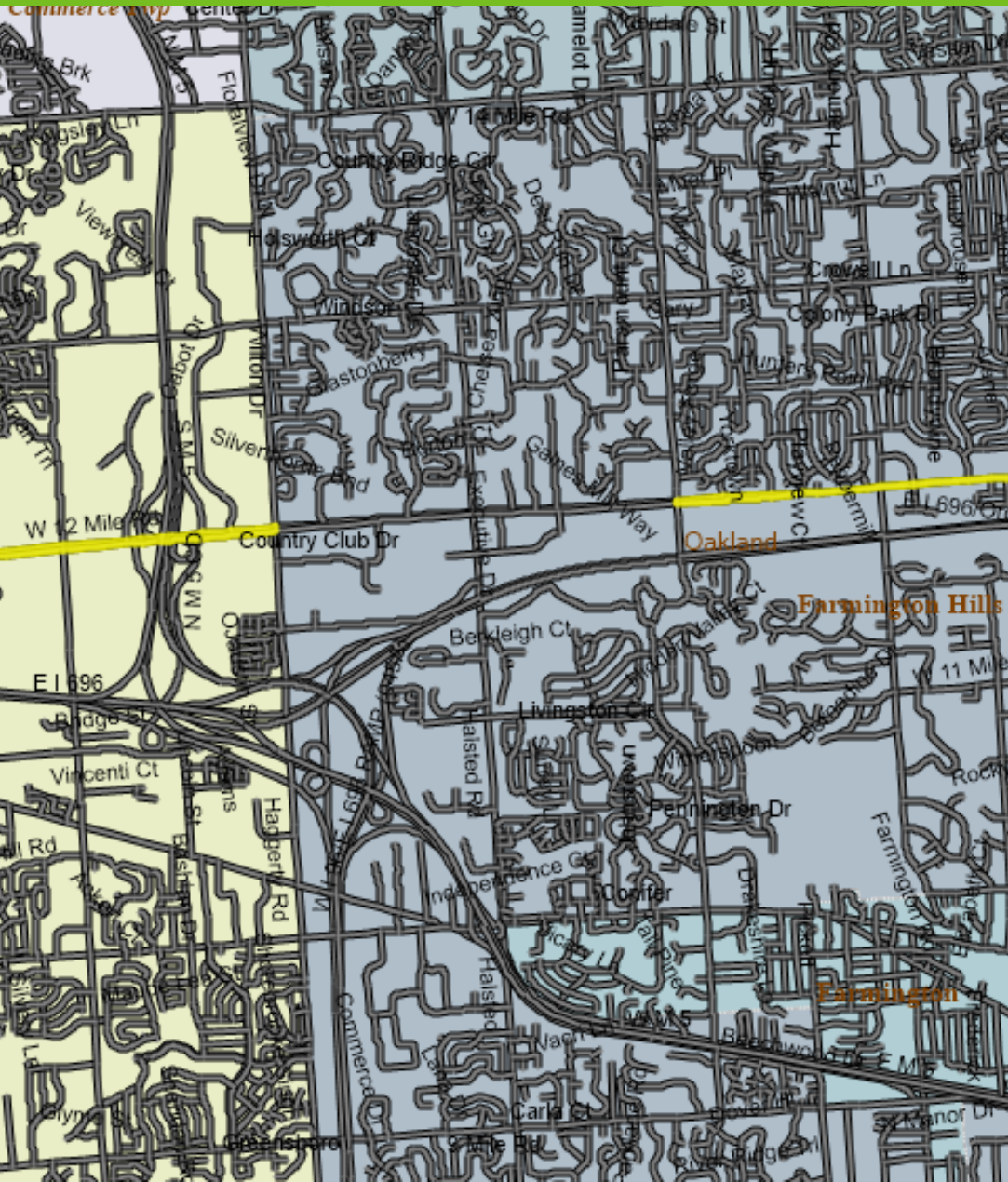
## Office Checks

- Skips
  - Interpolate, lower rating wins
- Smalls
  - Make sure small segment matches larger segment
    - » Surface
    - » Lanes
    - » PASER/IBR

## Field Checks

- Stubs
- Orphans
- X-Overs
- Long runs
- “When in doubt”

# QC Head Scratcher



- Oakland County day 2
- Data obviously missing, but why?
  - RCOC active Roadsoft user
  - Project information added in 2021
  - Roadsoft interpreted the data as rated in 2021
- Solution
  - Substitute “Last PASER/IBR Rating Date < 8/2/2021” in QC query
  - Corridors captured in field checks

# Data Sign-off

- Counties get final check of FA data
  - Typically list of PRs, BMPs, & EMPS
  - Data flows from the county!
- TAMZ files generated, sent to region
- FAST, SLOW, then IRT Upload
- IRT Confirmation Email
  - We are done!

# Thank You FA Data Collection Partners!

2017 Data Collection (Actual)

				Month																											
				June				July				August					September					October					November				
County	Miles	Days	Dates	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25			
Week				5-9	12-16	19-23	26-30	3-7	10-14	17-21	24-28	31-4	7-11	14-18	21-25	28-1	4-8	11-15	18-22	25-29	2-6	9-13	16-20	23-27	30-3	6-10	13-17	20-24			
Livingston	290	2	11/3 to 11/10	<div>Metra</div>																								Uni			
Macomb	480	5	10/10 to 10/17																												
Monroe	281	2	10/5 and 10/27																												
Oakland	946	11	6/3 to 6/28																												
St. Clair	338	3	3/7 to 3/19																												
Washtenaw	0	0	Off																												
Wayne	905	17	7/10 to 8/7																												
Detroit	344	13	3/7 to 10/3																												
	3,584	53																													

2018 Data Collection (Actual)

Month				June				July				August					September				October					November			
County	Miles	Days	Dates	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
Livingston	268	2	10/10 to 10/11	4-8	11-15	18-22	25-29	2-6	9-13	16-20	23-27	30-3	6-10	13-17	20-24	27-31	3-7	10-14	17-21	24-28	1-5	8-12	15-19	22-26	29-2	5-9	12-16	19-23	
Macomb	519	7	10/9 to 10/23																			Uni							
Monroe	334	3	10/22 to 11/8																										
Oakland	311	12	6/19 to 7/19																										
St. Clair	336	3	3/6 to 3/11																										
Washtenaw	1,004	8	3/6-3/7; 10/15-10/18																										
Wayne	361	12	7/24 to 8/14																										
Detroit	291	10	3/7 to 3/28																										
	4,624	57																											

2019 Data Collection (Actual)

				Month		May				June				July					August					September					October					November				
				Week		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
County	Miles	Days	Dates	6-10	13-17	20-24	27-31	3-7	10-14	17-21	24-28	1-5	8-12	15-19	22-26	29-2	5-9	12-16	19-23	26-30	2-6	9-13	16-20	23-27	30-4	7-11	14-18	21-25	28-1	4-8	11-15	18-22	25-29					
Livingston	276	2	10/8 to 10/10																								Uni											
Macomb	465	7	10/1 to 10/17																								Metra											
Monroe	283	2	10/28 to 10/29																																			
Oakland	375	11	5/6 to 6/14																																			
St. Clair	336	3	5/12-5/16; 18/18																																			
Washtenaw	0	0	off																																			
Wayne	361	17	6/28 to 7/30																																			
Detroit	291	7	8/19 to 9/5																																			
	3,587	43																																				

2021 Data Collection (Actual)

				June					July					August					September					October				November			
Month				Week					Week					Week					Week					Week				Week			
County	Miles	Days	Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26		
Livingston	577	5	7/19 to 7/26																												
Macomb	1,041	10	10/7 to 11/6																												
Monroe	621	4	3/15 to 3/27																												
Oakland	1,346	23	8/2 to 3/12																												
St. Clair	701	6	3/27 to 11/2																												
Washtenaw	351	7	6/23 to 10/7																												
Wayne	1,334	34	7/19 to 3/27																												
Detroit	650	17	10/4 to 11/12																												
	8,421	106																													

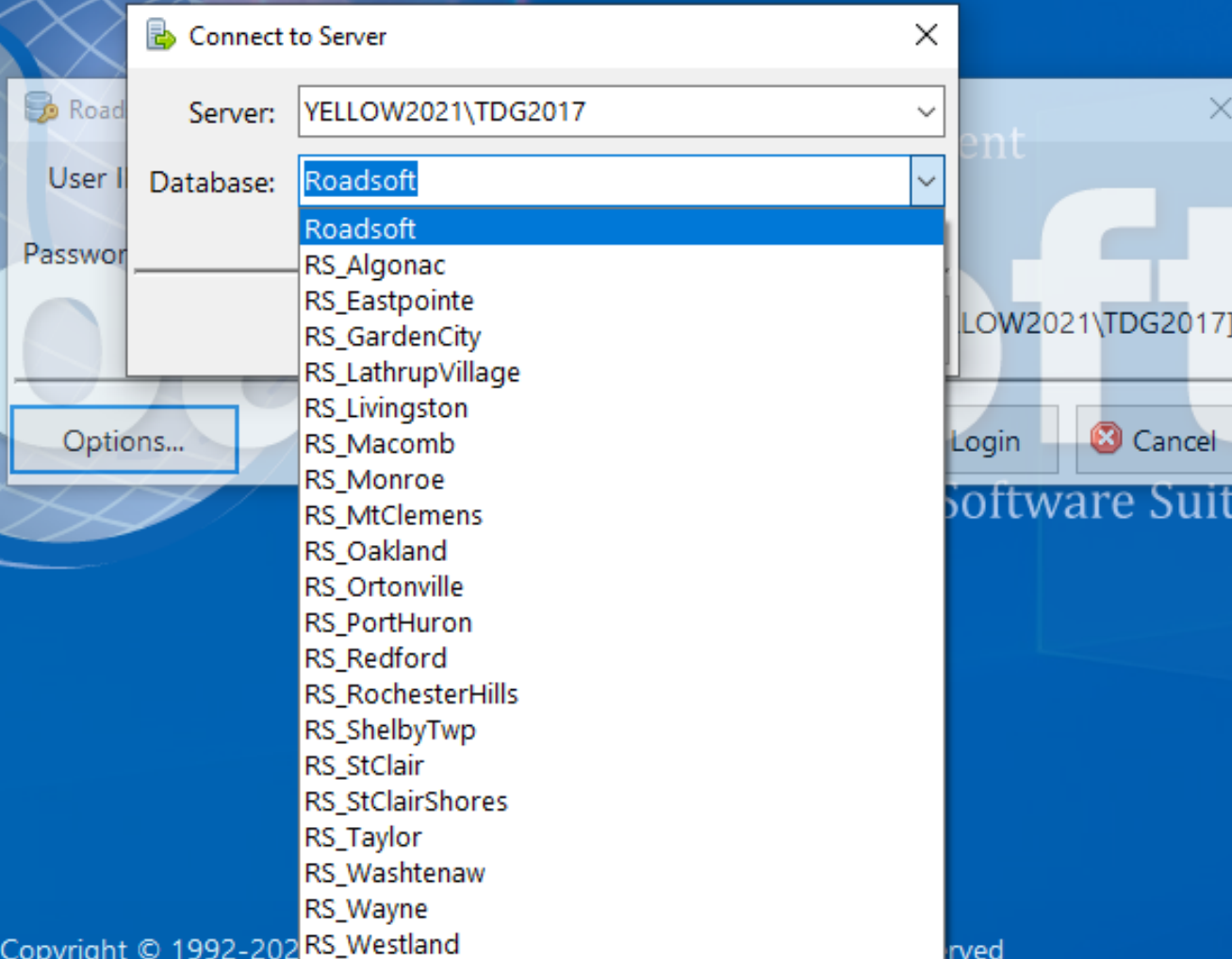
# NFA Data Checks

# Non-Federal Aid Data

- SEMCOG has active grant program
  - Expected data
  - Average ~10 per year
- Unexpected data
  - Communities share data with the region
  - Average ~4 per year
- Expected, unexpected data handled identically
- Big unknown
  - How much data are the partners sending?



# Step 1



- Import data into blank Roadsoft database
- Minimize headaches later down the line
- Maximize opportunity to isolate issues with data



# Submitted Data

Group	Field	Operator	Value(s)
1	City/Twp	=	Port Huron
1	Last PASER Rating Year	=	2021

- Full extent of data
- 47.624 miles

## Criteria

City/Twp = Port Huron  
Last PASER Rating Year = 2021

636 segments found (47.624 centerline miles)

# Local Data

Group	Field	Operator	Value(s)
1	City/Twp	=	Port Huron
1	Last PASER Rating Year	=	2021
1	Federal-aid	=	No

- How much is on the NFA network?
- Add FA = No
- 47.624 miles

Criteria
City/Twp = Port Huron Last PASER Rating Year = 2021 Federal-aid = No

636 segments found (47.624 centerline miles)

# Federal Aid Segments

Group	Field	Operator	Value(s)
1	City/Twp	=	Port Huron
1	Last PASER Rating Year	=	2021
1	Federal-aid	=	Yes

- Federal aid = Yes
- 0 miles
  - Gold star to Port Huron!\*

## Criteria

City/Twp = Port Huron  
Last PASER Rating Year = 2021  
Federal-aid = Yes

No Records for criteria found.

# Valid Data

Group	Field	Operator	Value(s)
1	City/Twp	=	Port Huron
1	Last PASER Rating Year	=	2021
1	Federal-aid	=	No
1	Legal System	=	4-City Major or 5-City Local

- Update FA to 'No'
- Add Legal System = major and local streets
- Meets TAMC requirements

## Criteria

City/Twp = Port Huron  
Last PASER Rating Year = 2021  
Federal-aid = No  
Legal System = 4-City Major or 5-City Local

# TAMC Submission

- Data is prepped for upload to IRT
- Inside Baseball stuff
  - Regions only given option to export by county in Roadsoft
  - Multiple 'StClair2021.xml' files not helpful for record keeping
  - Solution = export data as 'PortHuronNFA2021.xml'
- Know data originated at the city
- Know it contains NFA data
- Forward IRT confirmation email
  - Triggers request for invoice for grantees

# NFA Data Caveats

- Mixing FA and NFA data
  - Communities own their data
  - Communities collect data for their own needs
- Roadsoft and LDC love to pull all data
  - Washtenaw County submitted NFA data during FA data collection period
  - Lots of FA data pulled into the IRT

Edward Hug

[hug@semcog.org](mailto:hug@semcog.org)

(313) 324-3335

**SEMCOG**

Southeast Michigan Council of Governments

1001 Woodward Ave, Ste. 1400

Detroit, MI 48226

[www.semcog.org](http://www.semcog.org)