



## **“Planning” versus “Design Level” Traffic Forecasts**

# **Traffic Projections Development and Uses: Design Traffic Forecasting Manual Procedures and use of Non-Traditional Data Sources**

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**Nithin Gomez, Senior Transportation Engineer, Gresham Smith**

# Office of Planning

## Traffic Analysis Group

Habte Kassa, Tech Services, Air Quality and  
Planning Support Branch Chief

Andre Washington, Traffic Analysis Group Leader

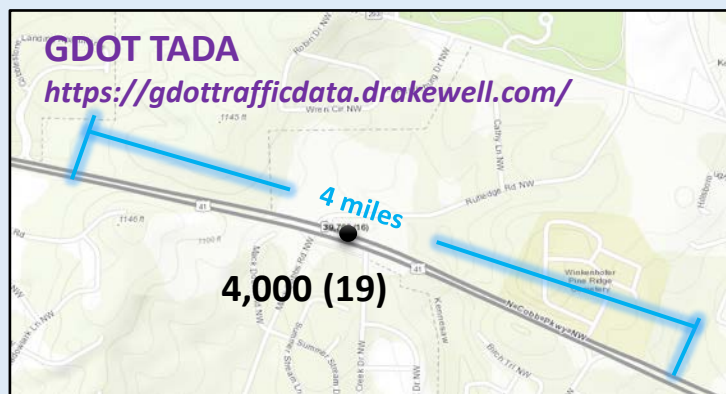
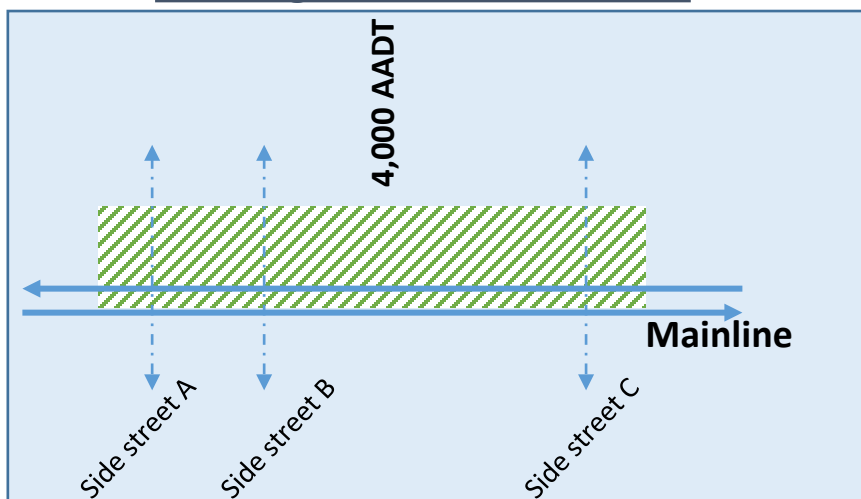
- Dan Funk
- Consulting Firms
  - ❖ Gresham Smith and HNTB



# Macro (Planning) vs. Micro (Design) Traffic

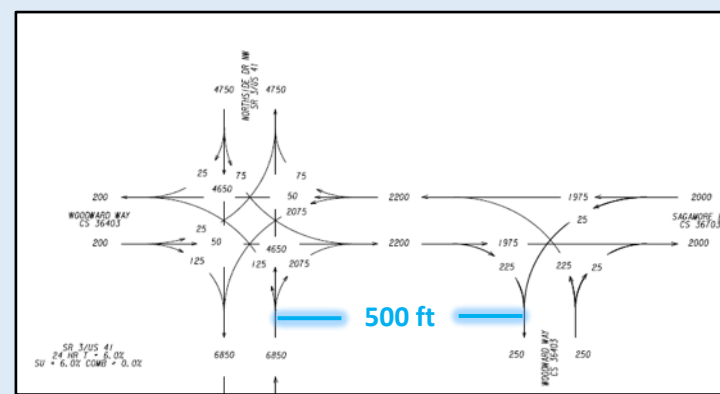
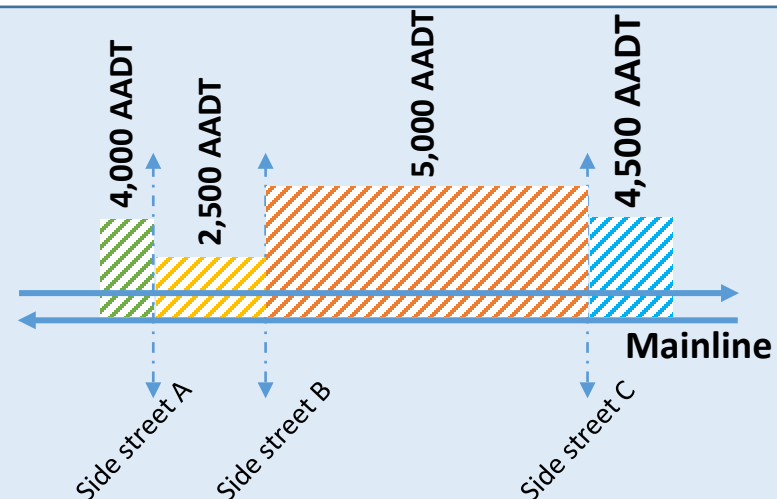
One segment volume spanning several side streets

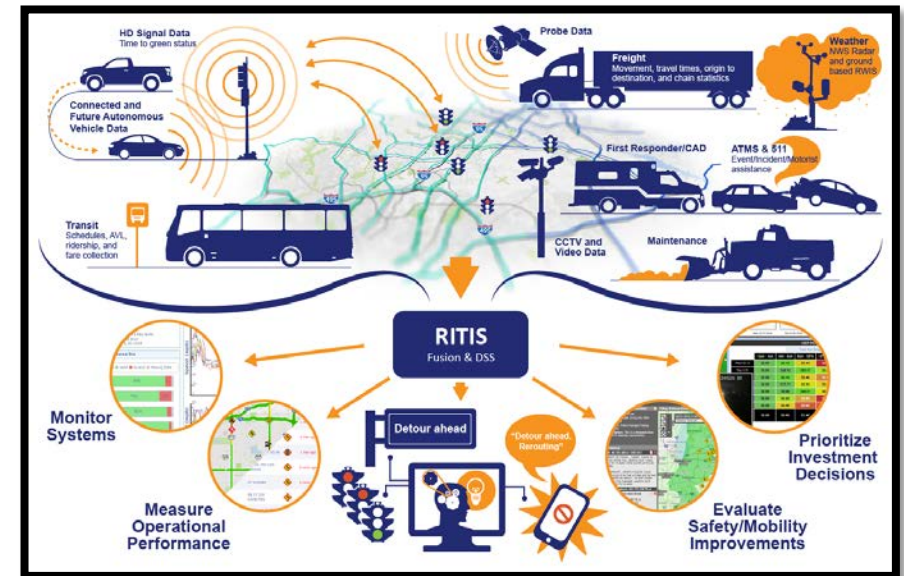
## Planning Level Traffic Volumes



Link by link volumes

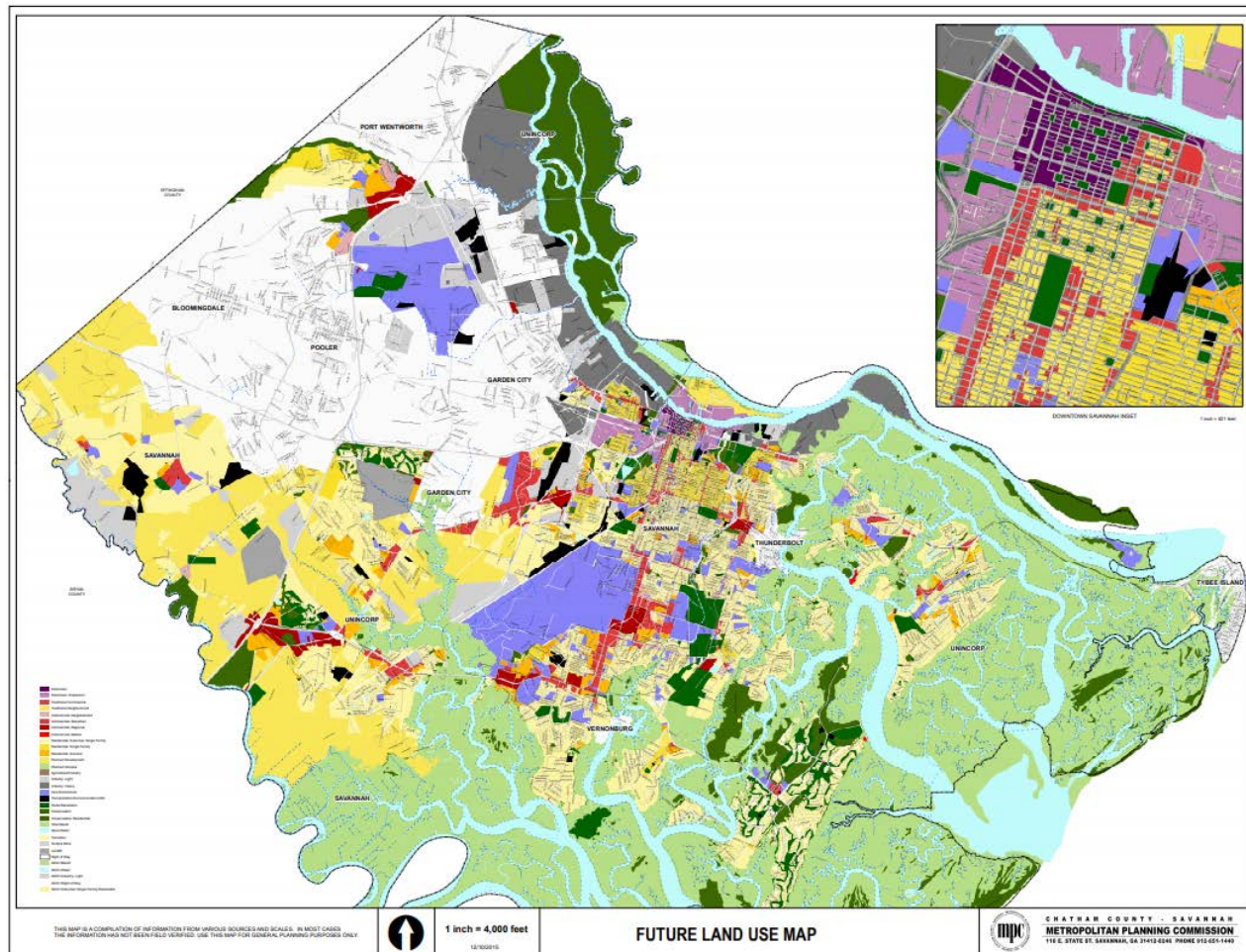
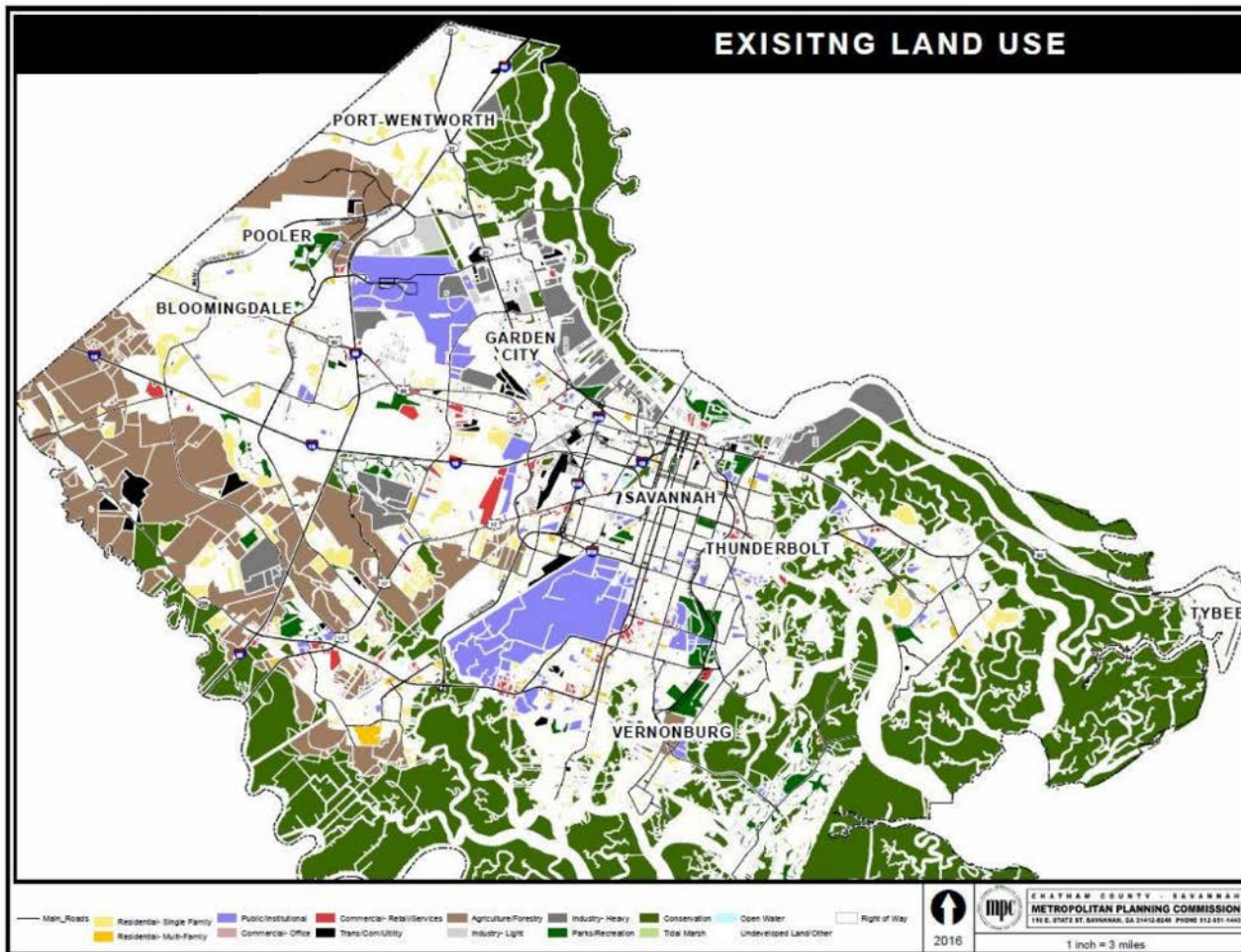
## Design Level Traffic Volumes







# Comp Plan – Example: Chatham County - Savannah





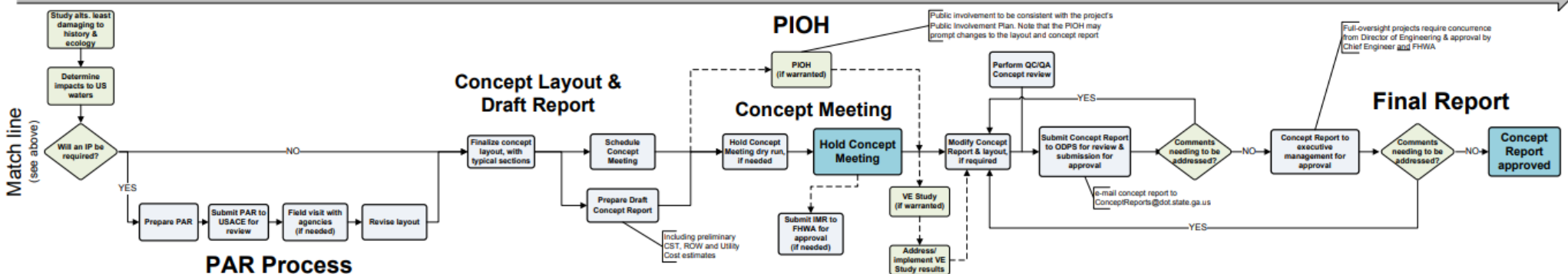
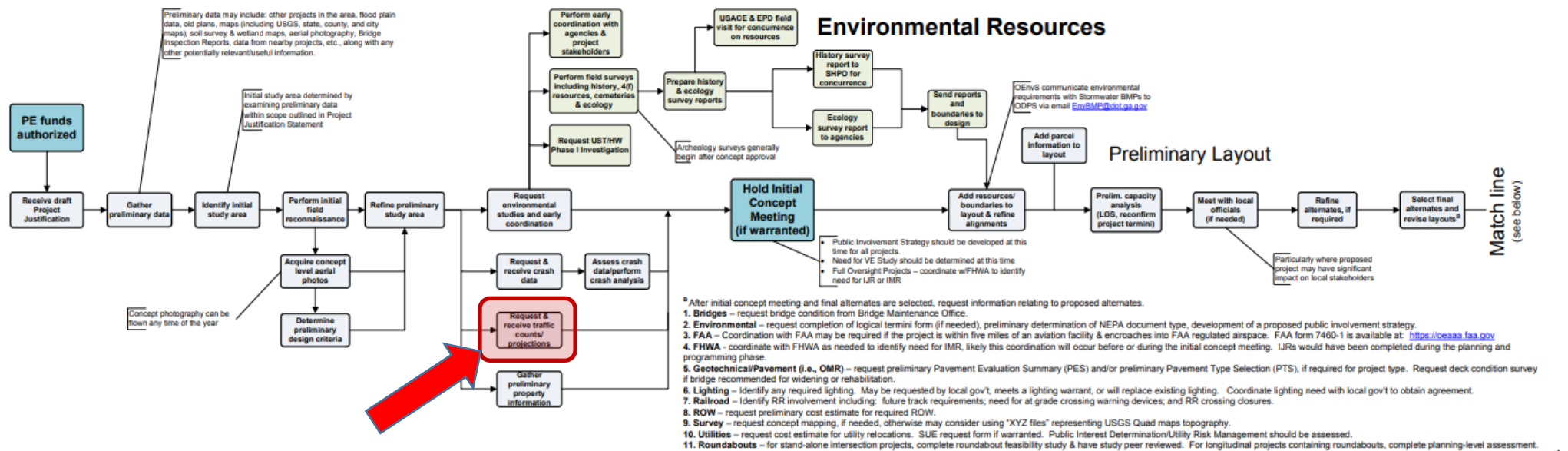
## Design Level Traffic



# Concept Development Process

GDOT Office of Design Policy and Support

Tuesday, December 13, 2017



**Note:**

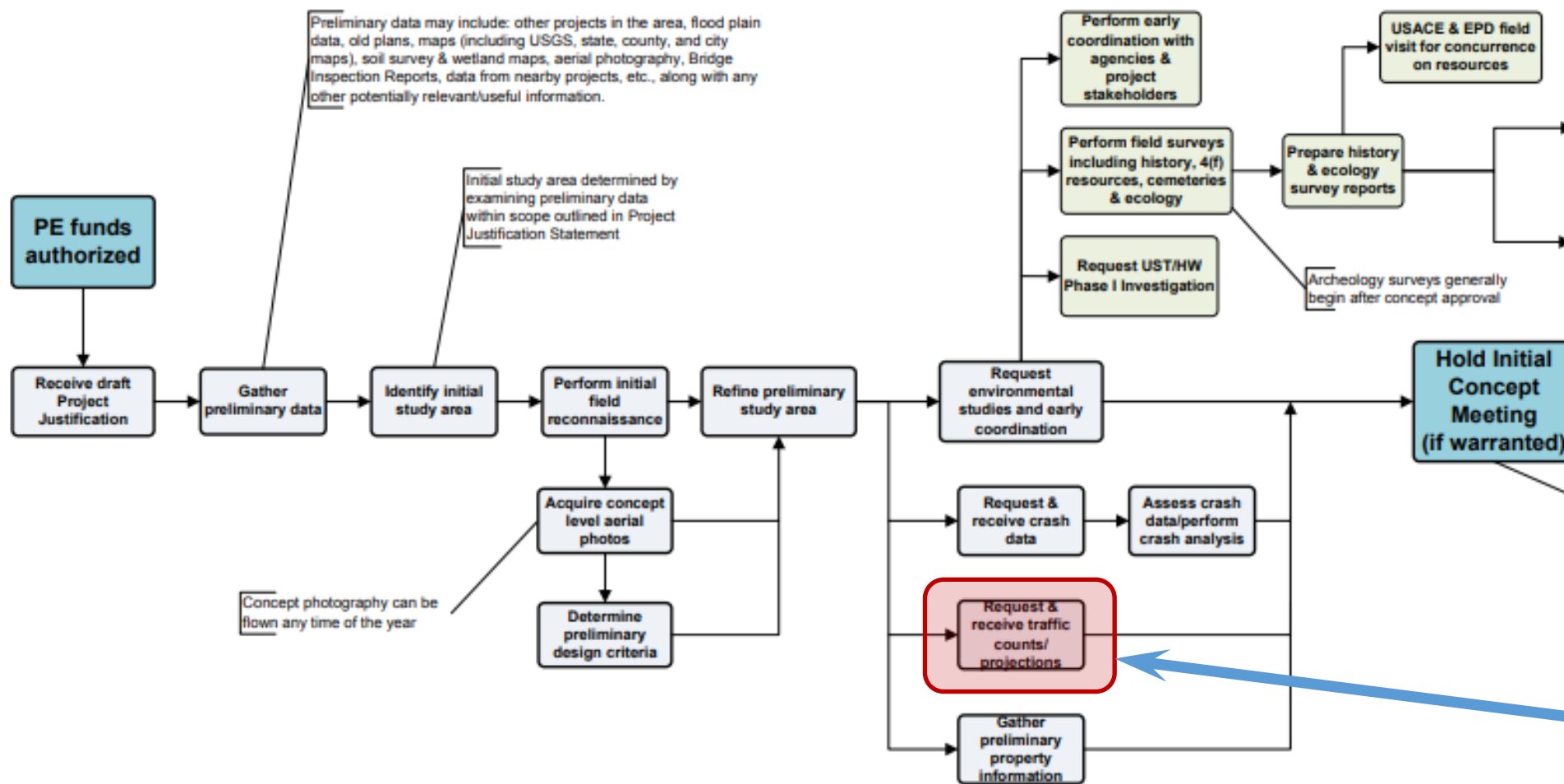
- This chart is intended to supplement the PDP by providing an overview the process for developing a concept for a roadway project having a new alignment component. Please refer to the PDP text for further details.
- The level of public involvement required can vary significantly between projects. The process shown here does not reflect the greater level of public involvement normally required for projects within MPOs or other sensitive areas.
- See the PDP text for specific requirements and objectives related to the project Design Data Book, Concept Meetings, Concept Reports and layouts, Public Meetings, etc.

**List of Acronyms:**

- 4(f) = Section 4(f) documentation  
DOE = Director of Engineering  
EPD = Environmental Protection Division of Department of Natural Resources  
FAA = US Federal Aviation Administration  
FEMA = Federal Emergency Management Agency  
FHWA = Federal Highway Administration  
HW = Hazardous waste  
IJR = Interchange Justification Report  
IMR = Interchange Modification Report
- IP = Individual Permit  
L&D = Location and Design  
LOS = Level of Service  
MPO = Metropolitan Planning Organization  
NEPA = National Environmental Policy Act  
N&P = Need and Purpose  
OEHS = Office of Environmental Services  
ODPS = Office of Design Policy and Support  
OMR = Office of Materials & Research  
PAR = Practical Alternatives Report  
PDP = Plan Development Process Manual

- PE = Preliminary Engineering  
PIOH = Public Information Open House  
PM = Project Manager  
QA = Quality Assurance  
ROW = Right-of-Way  
RR = Railroad  
SHPO = State Historic Preservation Officer  
SUE = Overhead/Subsurface Utility Engineering  
USACE = US Army Corps of Engineers  
USGS = United States Geological Survey  
UST = underground storage tank

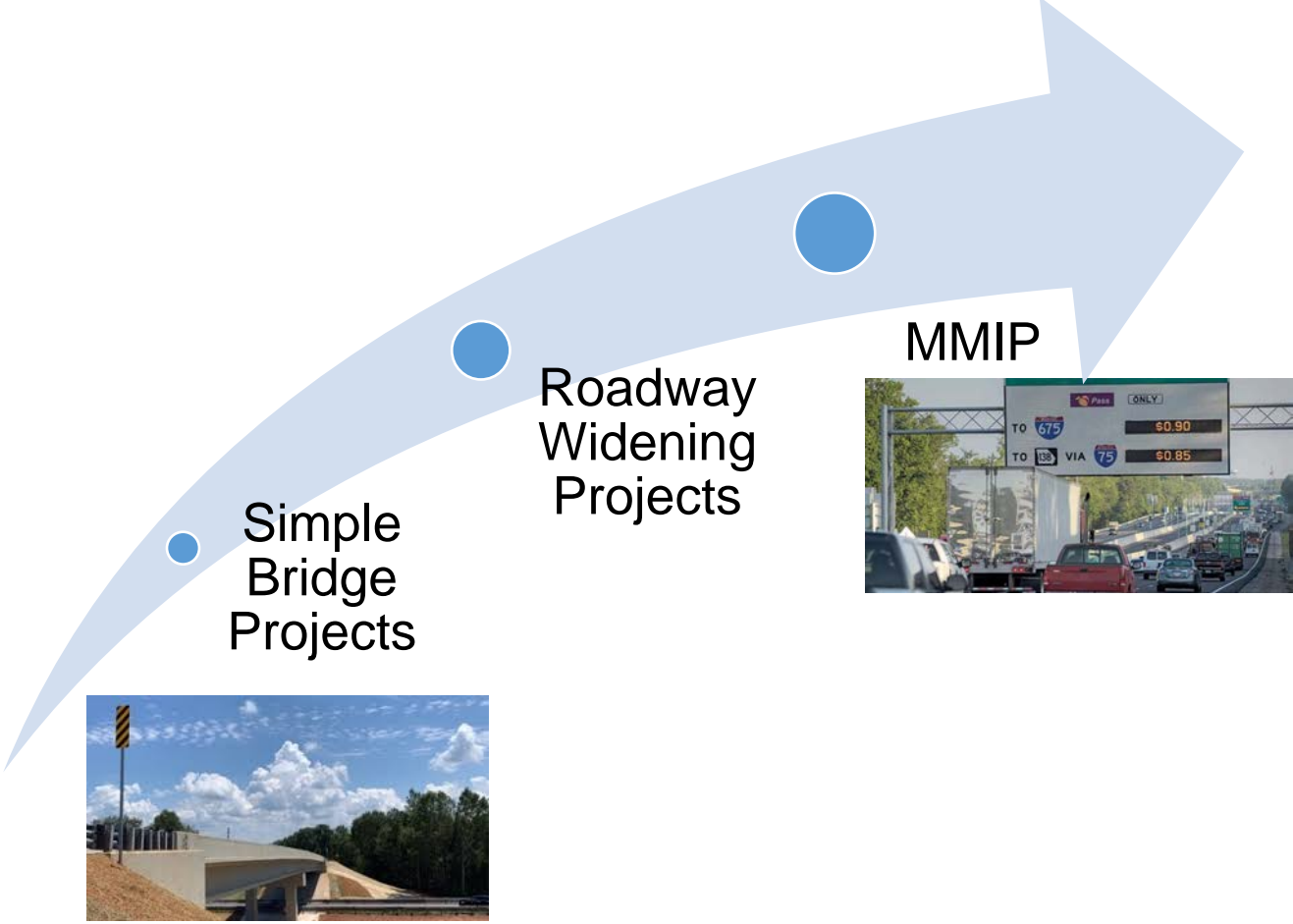
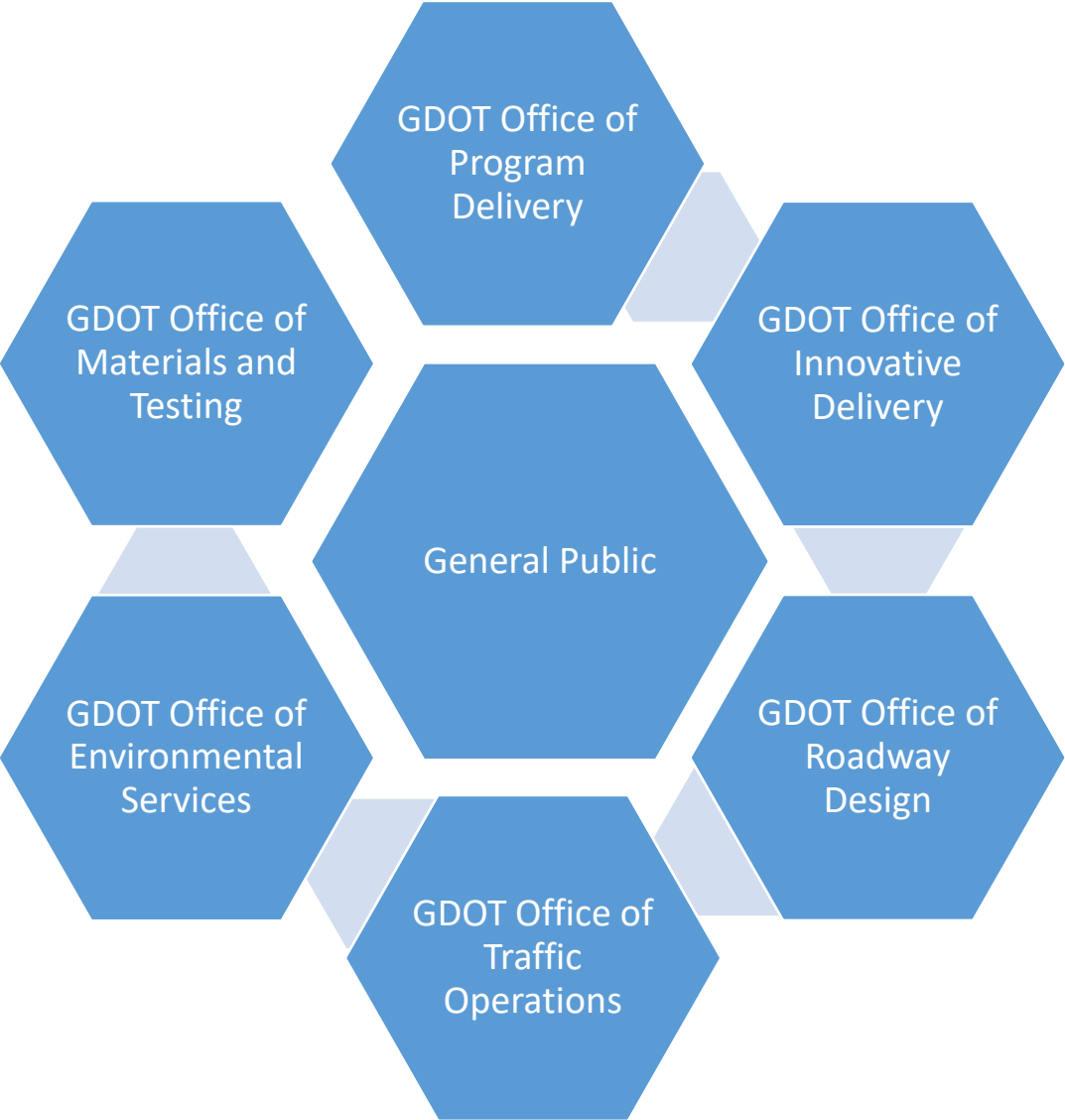
# Concept Development Process



Request &  
Receive Traffic  
Counts/  
Projections



# Customers



## Who Makes a Design Traffic Request?

- Requests are typically made by GDOT Project Manager
- For Safety and Operational Improvement Lump Sum Program requests it should be coordinated with the Office of Traffic Operations.



# Preconstruction Status Report

## Planning Field

**Preconstruction Status Report**

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**PI NUMBER:** 0016985  
**COUNTY:** Glynn  
**LENGTH(MI):** 4.00  
**PROJ NO:**  
**PROJ MGR:** Edwards, Cassius Octavius  
**AOHD INITIALS:** CLB  
**OFFICE:** Program Delivery  
**CONSULTANT:** No Consultant, GDOT In-House Design

**SR 25 FM CR 372/YACHT RD TO CR 415/HARRY DRIGGERS BLVD-PH I**  
**SPONSOR:** GDOT  
**MPO:** Brunswick  
**TIP#:** BATS01-03  
**MODEL YR:**  
**TYPE WORK:** Widening  
**CONCEPT:** ADD 4R(MED 44)  
**PROG TYPE:** Reconstruction/Rehabilitation

**MEASURE:** E  
**DESIGN FIRM:** GDOT Roadway Design C Bowler  
**PRIORITY CD:** 5  
**CONG. DIST:** 001  
**COMPLETE STREETS:** B  
**SUFF:** 54.5

**BASELINE LET DT:** 9/8/20  
**SCHED LET DT:** 2/9/21  
**LIGHTING TYPE:** None  
**DOT DIST:** GEPA  
**ENV DOC TYPE:** In House  
**ENV CONSULTANT:**

**MGMT LET DT:** 9/18/20  
**MGMT ROW DT:** 9/18/20  
**WHO LETS?:** Prepare Plans for Shelf  
**LET WITH:** 0

**PRINT DATE:** 02/20/20  
**PAGE:** 9

BASE START	BASE FINISH	TASKS	START DATE	FINISH DATE	ACTUAL START	ACTUAL FINISH	%
2/25/04	3/3/09	Concept Development Summary	2/25/04	3/3/09	2/25/04	3/3/09	100
12/4/08	3/3/09	PAR Summary	12/4/08	3/3/09	12/4/08	3/3/09	100
4/10/08	4/10/08	PM Submit Concept Report	4/10/08	4/10/08	4/10/08	4/10/08	100
5/8/08	5/8/08	Management Concept Approval Complete	5/8/08	5/8/08	5/8/08	5/8/08	100
4/28/10	1/15/14	Revised Concept Summary	4/28/10	1/15/14	4/28/10	1/15/14	100
7/22/14	7/22/14	Public Information Open House Held	7/22/14	7/22/14	7/22/14	7/22/14	100
12/11/13	6/26/17	Environmental Document Approval Summary (11412 through 18100)	12/11/13	6/26/17	12/11/13	6/26/17	100
12/11/13	9/29/14	Environmental Resource Identification Summary	12/11/13	9/29/14	12/11/13	9/29/14	100
12/26/03	10/26/15	Database Summary	12/26/03	10/26/15	12/26/03	10/26/15	100
4/1/14	2/18/16	Preliminary Roadway Plans (consultant design)	4/1/14	2/18/16	4/1/14	2/18/16	100
1/4/13	1/4/13	Submit Preliminary Plans to Utilities for Impacted Railroads	1/4/13	1/4/13	1/4/13	1/4/13	100
8/5/15	4/12/16	Preliminary Bridge Design Summary	8/5/15	4/12/16	8/5/15	4/12/16	100
3/21/16	3/21/16	FFPR Inspection	3/21/16	3/21/16	3/21/16	3/21/16	100
8/5/15	3/29/16	Soil Survey Summary	8/5/15	3/29/16	8/5/15	3/29/16	100
4/12/16	4/12/17	BFI Report Summary	4/12/16	4/12/17	4/12/16	4/12/17	100
7/7/17	10/22/19	Final Roadway Plans LOE (in house design)	7/7/17	10/22/19	7/7/17	10/22/19	100
6/20/16	3/26/18	Final Bridge Plans Preparation	6/20/16	3/26/18	6/20/16	3/26/18	100
12/20/19	6/12/20	404 and Buffer Variance (BV) Permits LOE	5/19/20	11/6/20			0
11/14/19	11/14/19	FFPR Inspection	4/14/20	4/14/20			0
6/29/20	6/29/20	Submit Final Plans	11/26/20	11/26/20			0

**Bridge :** DLW 2/10/20 PROJ SPLIT FROM 532650  
**Design :** cbowler@dot.ga.gov Carol Bowler, GDOT, 404.347.0647, cbowler@dot.ga.gov MP, Behind Schedule, Splitting Final Plans PH I and II; Next Deliv Revised Concept Report for split, Split Utilities resubmittal 2/14/20 and Request FFPR 3/3/20; No Risks, Need: Updated Utilities for split, 2/2019 (Env. on hold) Prepared for shelf-No Certification | State Funded-No Doc | EA/FONSI Apvd 26Jun17 (former Fed Fund) | Jackson 8Jan20  
**EIS :** TO BE DETERMINED  
**LGPA :** Traffic completed for (2028/2048) & (2030/2050) on 10/01/2019  
**Planning :** STATE FUNDED NON-BANK PROJECT[SPLIT FROM PI# 532650]  
**Programming :** Split from 532650; Parcels 1-119, 125 & 159 acq under 532650; GDOT in possession of all Parcels & are now "existing ROW" F.W.9-17-19  
**ROW :** On schedule. Revised 2nd Subs to Util 2-19-20.  
**Utility :**

Phase	Approved	Proposed	Lump Yr	Program	Cost	Fund	Status	Date Auth
CST	2026	2026			\$20,238,337.14	HB170	PRECST	
UTL	2026	2026			\$5,032,300.00	HB170	PRECST	

	COST EST AMTS.		STIP AMOUNTS	
CST	\$20,238,337.14	7/23/19	Activity	Cost
UTL	\$5,032,300.00	7/30/19	CST	\$0.00
			UTL	\$0.00
				Fund
				HB170

**Project Manager**

Carol Bowler, GDOT, 404-347-0647, cbowler@dot.ga.gov  
On sched. for let. No. (Prepare Plans for Shelf), Rdwy Des. was asked to split plans by Eng. Serv. for FFPR. They expect to have plans by end of February 2020, request FFPR 3.20, hold 4.20.  
FFPR Status: 4/2020  
FFPR Resp: 5/2020  
FFPR Plan: 5/2020  
Final Plans to CBA: 7/2020  
UTL: 7/2020  
ROW: 7/2020  
ENV: 7/2020  
ENV Lkdn plans: 12/2019  
404: Yes, on hold/till comes off shelf.  
SBV: Yes, on hold/till comes off shelf, Mitig. needed, not purchased/Salt Marsh Credits  
CST Auth: 7/2020  
Plans to Reprod.: 7/2020  
COE: 2.17.20

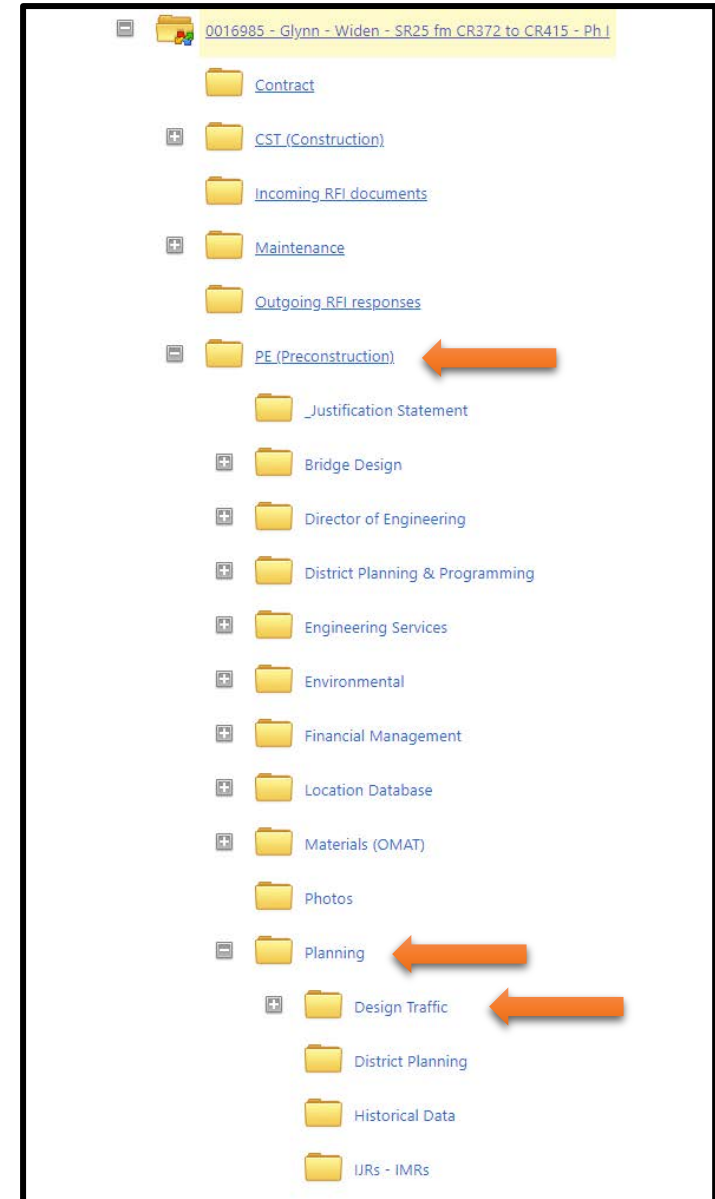
**Traffic completed for (2028/2048) & (2030/2050)  
on 10/01/2019**



# ProjectWise

## Design Traffic Files

- Project FOLDER (PI Number – County – Description)
  - PE (Preconstruction)
    - Planning
      - Design Traffic



# Importance of Design Traffic Forecasting

## WisDOT Traffic Projections Questioned, Hwy 23 Expansion Blocked by Court

BY JUSTIN R. MITCHELL ON MAY 28, 2015

NEWS & FEATURES, NEWS & POLITICS

On Friday, the U.S. Eastern District Court upheld claims in a lawsuit filed by 1000 Friends of Wisconsin and cut off federal funding for the beleaguered Highway 23 road expansion project between Fond du Lac and Plymouth. **The Court agreed with the land use organization that the Wisconsin Department of Transportation used unsupported, inflated traffic forecasts to justify the project.**

The Court also agreed that the Department's environmental impact statement violated federal law by failing to consider whether updated population projections that showed that the population in the area of Highway 23 would grow only about one-third as quickly as the Department had previously projected would affect the asserted need for expanding the highway.

"This is a huge win for taxpayers," said Steve Hiniker, Executive Director of 1000 Friends of Wisconsin. "We have known for years that the state DOT has been using artificially high traffic forecasts to justify a number of highway expansion projects. Now a federal court has validated our claims."



# Covid-19

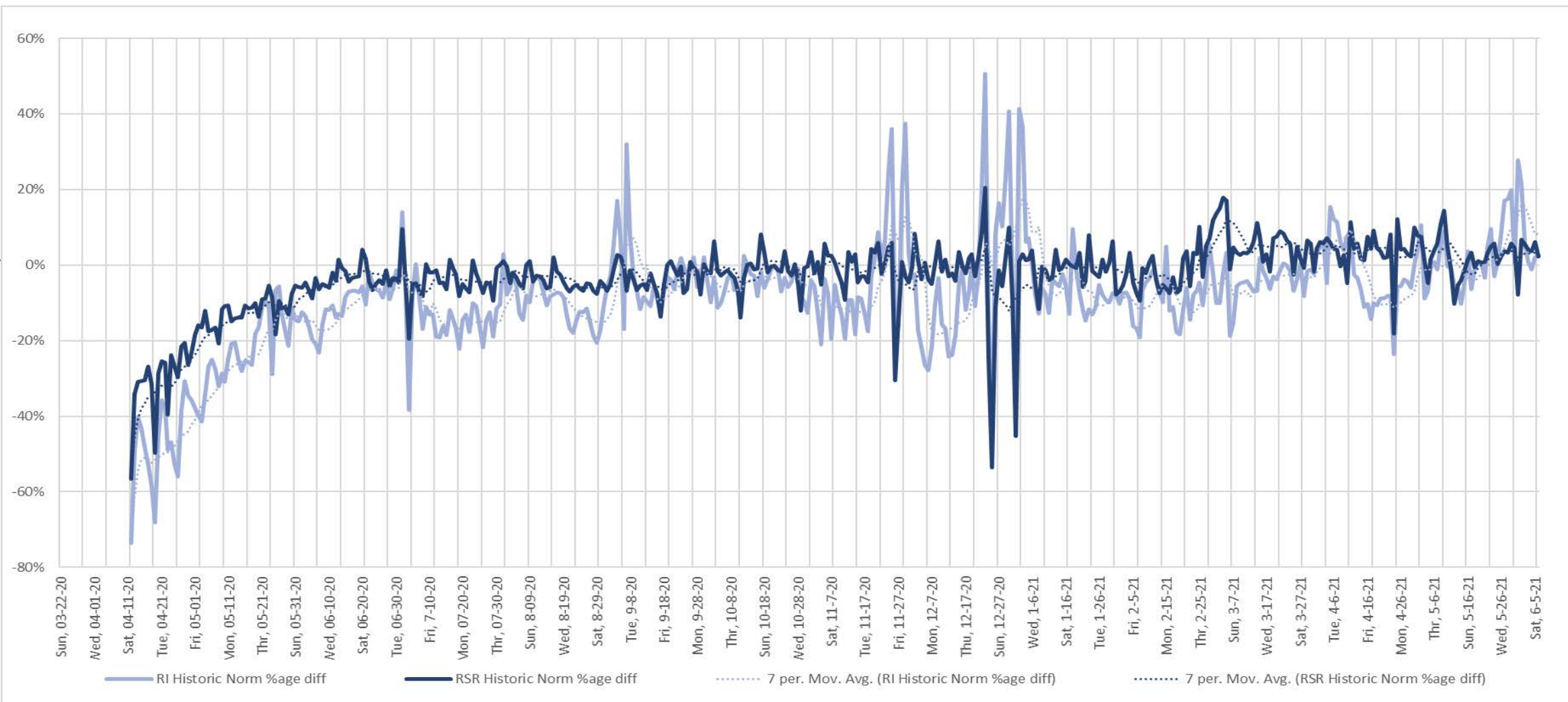
Traffic Volume Comparison

Traffic Forecasting Requirements memo

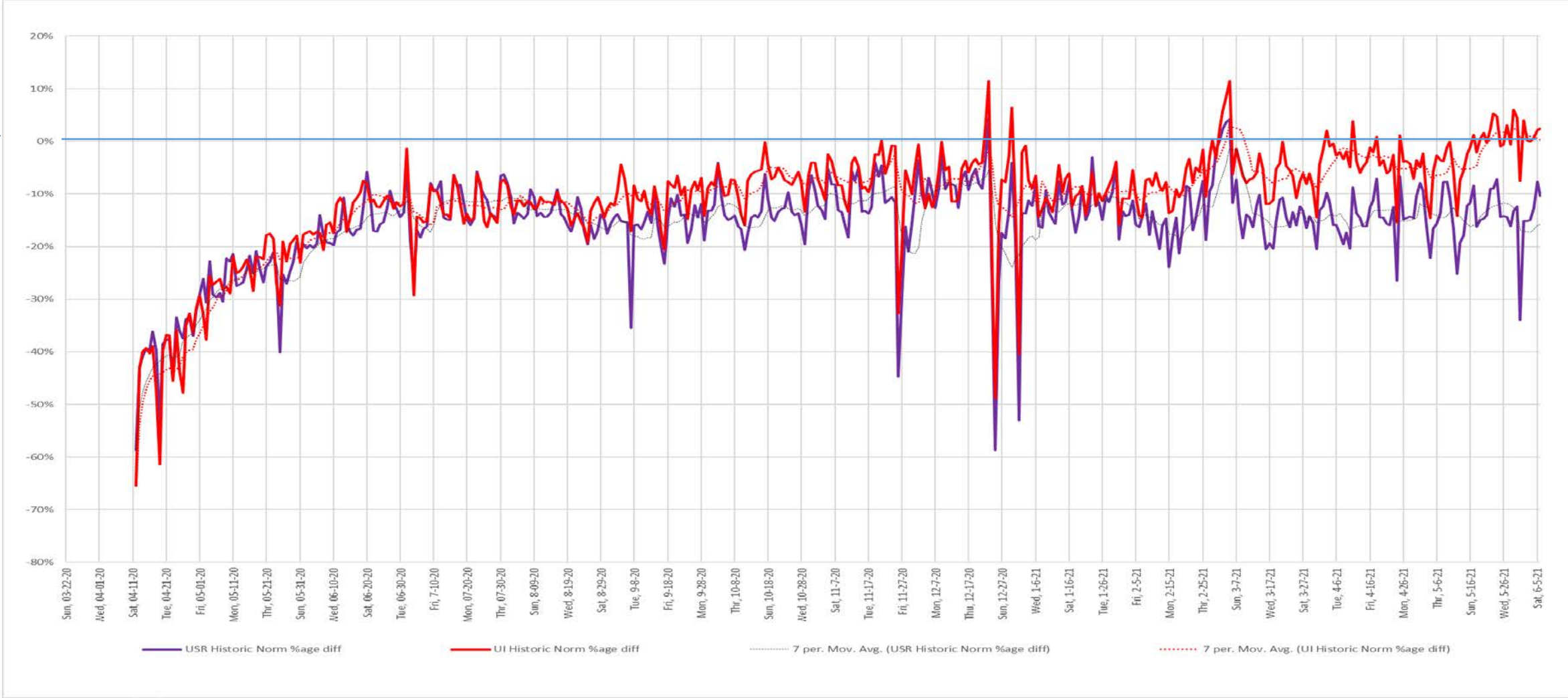




# Covid-19: Traffic Volume Comparisons: Rural State Routes and Interstates



# Covid-19: Traffic Volume Comparisons: Urban State Routes and Interstates



# Covid-19 : What Are We Doing To Keep Projects Moving?

- Travel patterns are different compared to pre-COVID, with schools not operating uniformly across the state (e.g., online schooling, in-person schooling, or a combination of both), as well as teleworking policies and operating hours being different for some businesses.
- Peak hour traffic volumes (especially AM) are observed to be lower especially in metro Atlanta when compared to Pre-COVID levels.
- To continue design traffic forecasting activities during the current unprecedented conditions, Office of Planning developed a COVID-19 memo that details the additional requirements that needs to be followed.



## Interoffice Memo

OFFICE: Planning

DATE: August 31, 2020

FROM: Tom McQueen AICP, Asst. State Transportation Planning Administrator

TO: Distribution

SUBJECT: COVID-19 Effects on the Office of Planning's Design Traffic Procedures

Historically, the motivation for the Office of Planning's traditional policy to not conduct design-level traffic counts during holidays and summertime is because students are not in school, which means traffic volumes and travel patterns are not normal or typical. Although schools throughout Georgia have recently resumed for the 2020-2021 school year, they are not operating uniformly across the state (e.g. online schooling, in-person schooling, or a combination of both).

Overall, it is anticipated that traffic volumes will not rebound to pre-COVID levels as observed when all students attended classes in-person – especially in metro Atlanta. As such, new traffic count data collected during these unique schooling and work-from-home conditions will likely underrepresent the normal or typical traffic conditions on which subsequent future-year forecasts are based. **We are therefore providing additional requirements to supplement the existing "3 step submittal process" in the Design Traffic Forecasting Manual and will be in effect until further notice from the Office of Planning.** Details on these requirements are shared on the following pages.

All projects following the **GDOT Plan Development Process** needing design traffic forecasts – completed either by the Office of Planning or by a consultant and reviewed and approved by the Office of Planning – are still required to follow the current **Design Traffic Forecasting Manual**. Design traffic forecasts completed for projects included in the GDOT Office of Traffic Operations' Safety and Operational Improvement Lump Sum Program should continue to coordinate with the Office of Traffic Operations.



# Covid-19 : Traffic Forecasting Requirements memo

## Step 1: Traffic Count Map

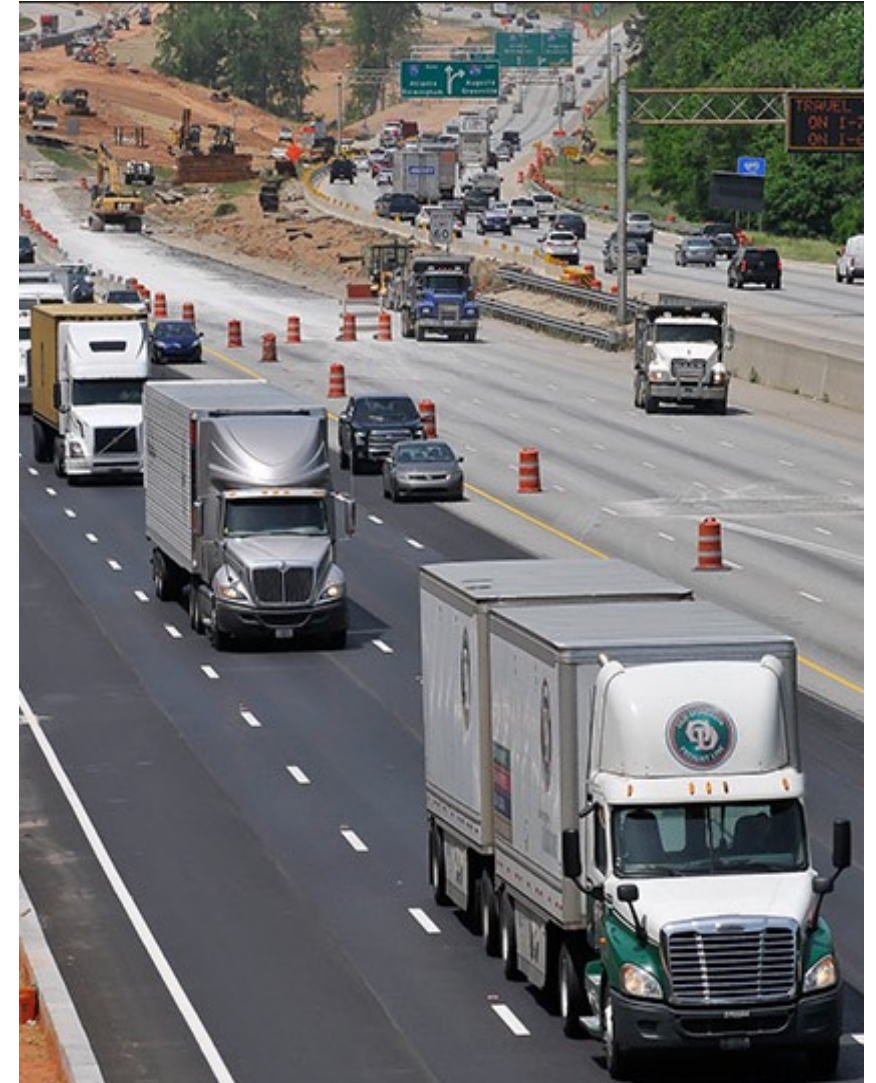
- Check on the availability of historical traffic count data and/or approved traffic forecasts in the vicinity of the project area.
- Historical traffic count data collected within the last three years is acceptable for design traffic forecasting activities.
- Proposed NEW traffic count data collection should follow the DTF Manual and COVID memo.
- Establish “count adjustment stations” for developing a project specific traffic adjustment factor.



# Covid-19 : Traffic Forecasting Requirements memo (Cont'd.)

## Step 2: Traffic Data Report

- AADT Adjustment Factors should be developed based on a review of traffic count data at the “count adjustment stations”. This factor is then applied to the NEW traffic count data to develop existing year AADT volumes
- For developing existing year DHVs, the K&D-Factors, turning movement patterns and any necessary adjustments should be based on historical traffic count data.
- The Traffic Data Report should detail the development of project specific traffic adjustment factors.





# Covid-19 : Traffic Forecasting Requirements memo (Cont'd.)

## Step 3: Traffic Forecasting Report

- Approved Growth Rates and K&D-Factors should be applied to develop the future traffic forecasting.
- Design traffic forecasts developed using NEW traffic count data collected during COVID-19 should add a note to the Traffic Diagrams: "Counts collected during COVID-19 and adjusted per GDOT Forecasting guidance".





## Habte Kassa

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