



**AGILE 2022** JULY 18-22  
**NASHVILLE**





George Dinwiddie

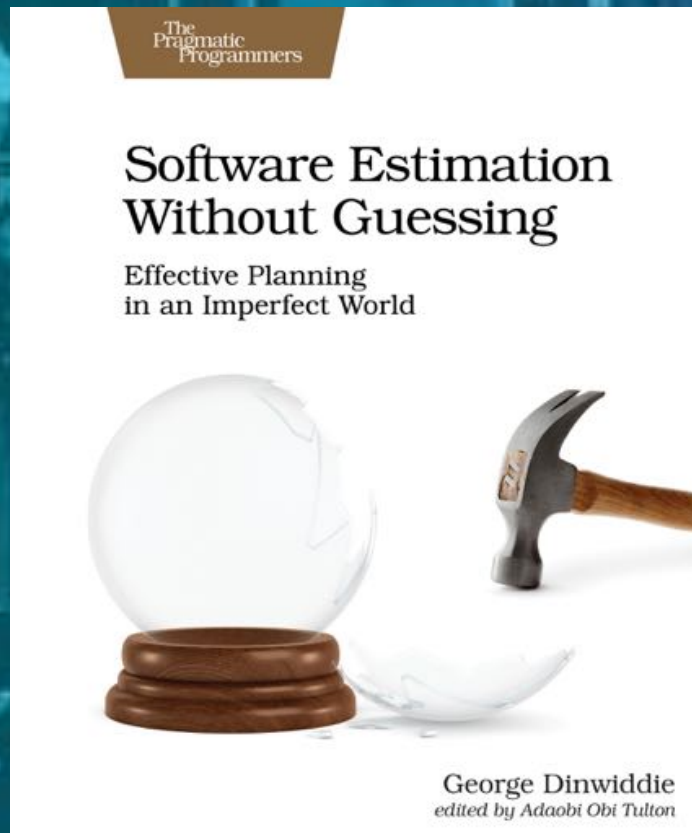
Your Estimates are WRONG and That's RIGHT!





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For 35% off through July, visit  
<https://pragprog.com/titles/gdestimate/>  
and use code **GDESTIMATE\_AGILE\_2022**

AGILE 2022 JULY 18-22  
NASHVILLE



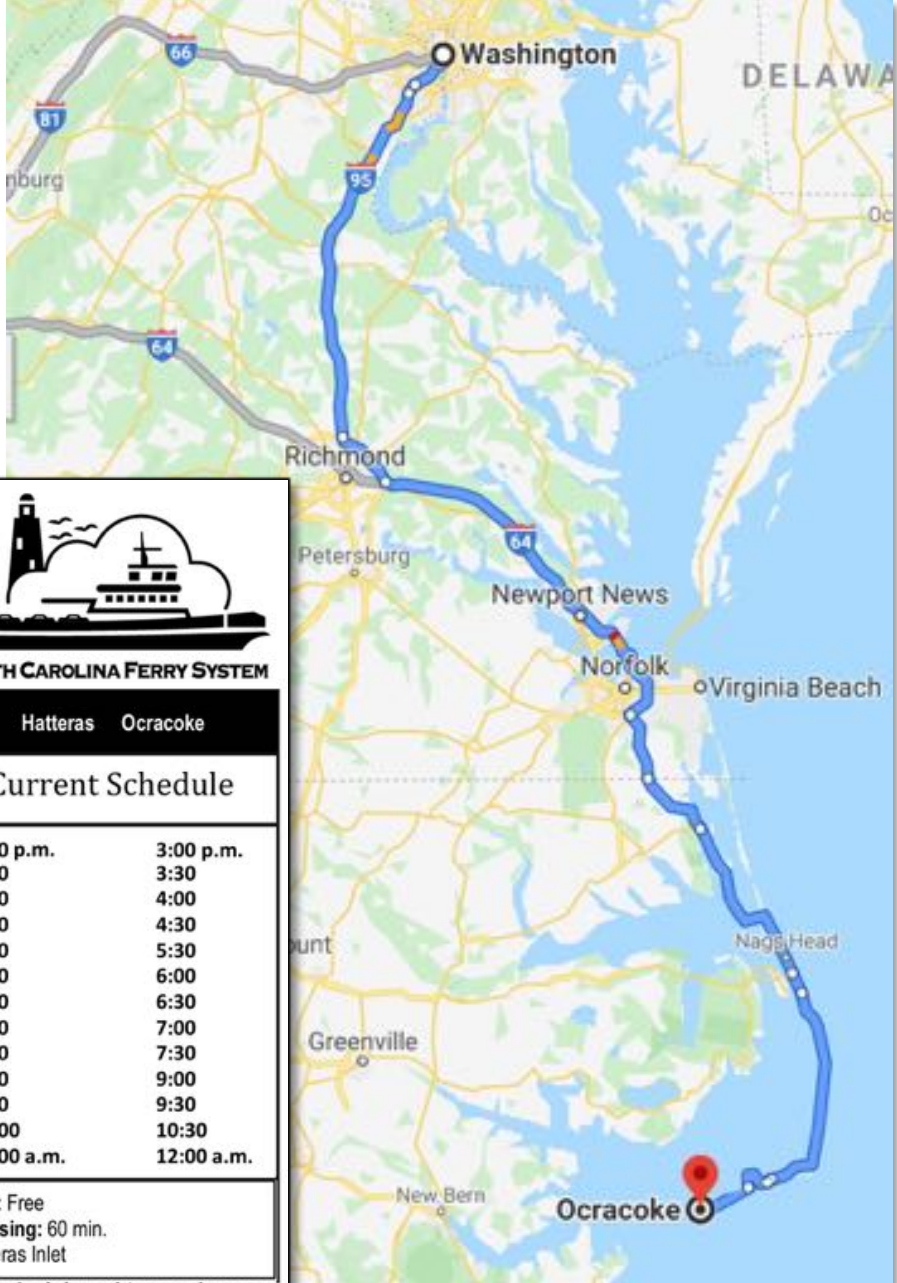
Are We There Yet?






# What time do you leave?

- Starting in Washington D.C.
- Washington D.C. to Ocracoke is 364 miles via I-95, I-64, Nags Head
- Dinner is planned for 6:30 PM Friday in Ocracoke with friends from Columbia S.C.
- You're traveling with young children
  - Which depends on --
- ***What is your estimated travel time?***
- ***What assumptions do you make?***



The map shows a route starting in Washington, D.C., heading south on I-95 through Richmond, Petersburg, and Newport News. It then turns east on I-64 through Norfolk and Virginia Beach, ending at Nags Head. A red pin marks Ocracoke, which is reached via a ferry crossing from Hatteras Inlet.



**NORTH CAROLINA FERRY SYSTEM**

Hatteras Ocracoke

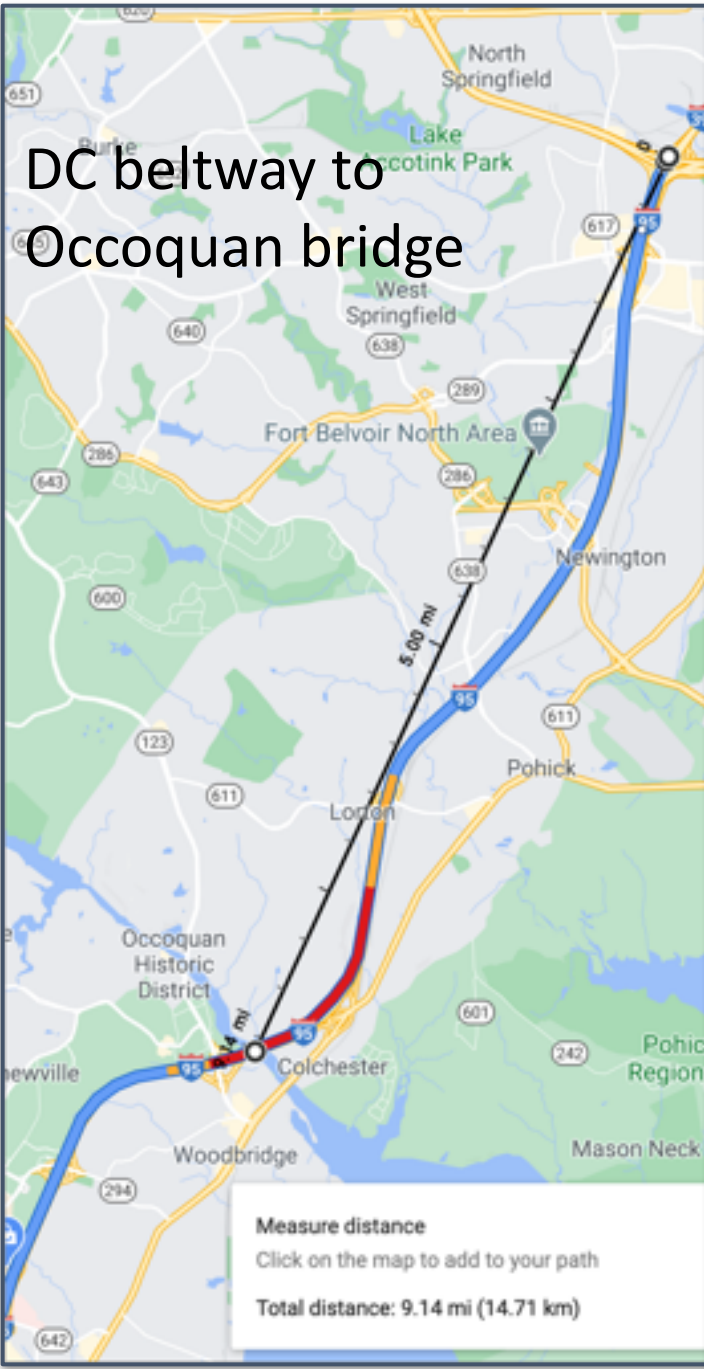
Current Schedule

2:00 p.m.	3:00 p.m.
2:30	3:30
3:00	4:00
4:00	4:30
4:30	5:30
5:00	6:00
5:30	6:30
6:00	7:00
7:30	7:30
8:00	9:00
9:00	9:30
11:00	10:30
12:00 a.m.	12:00 a.m.

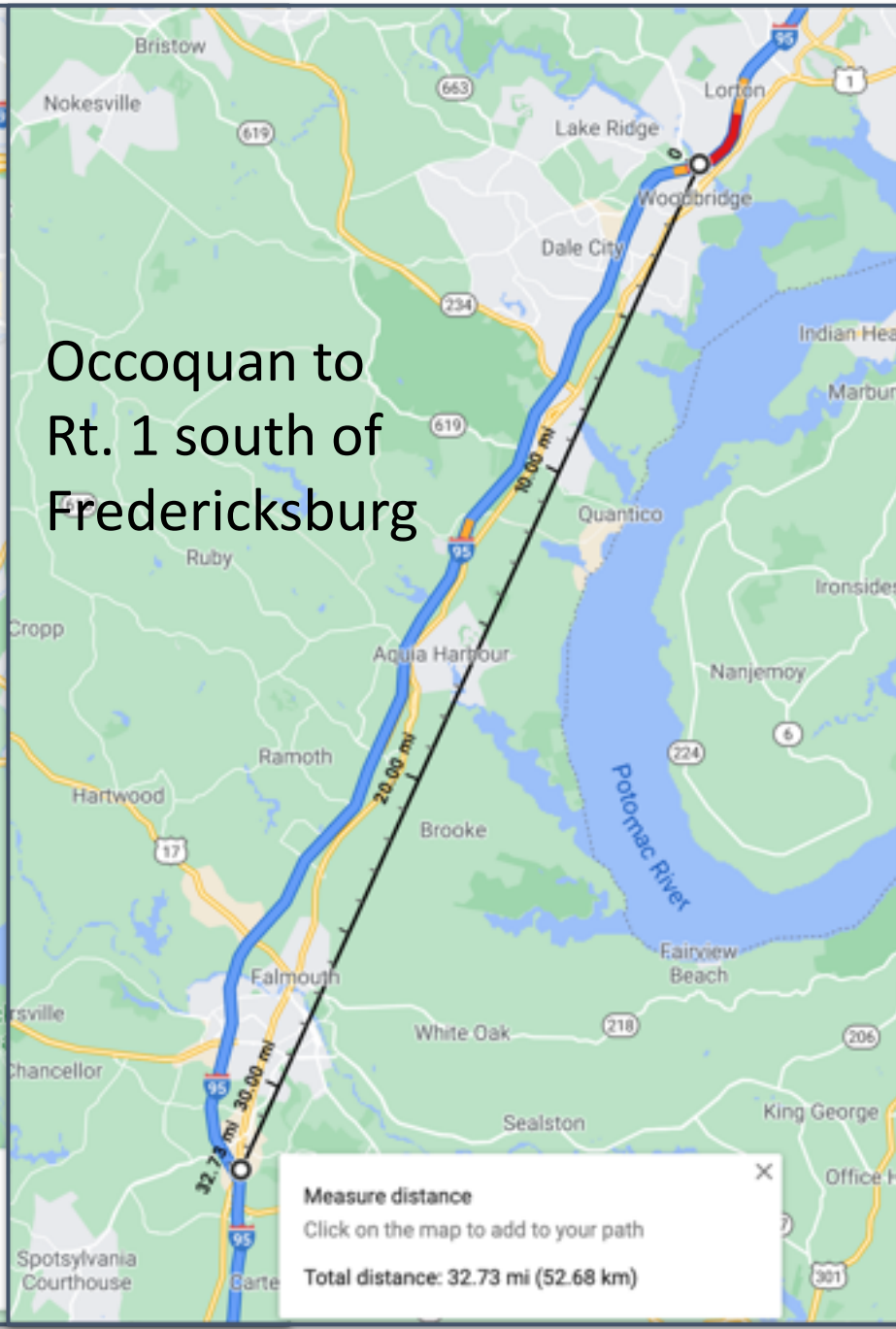
Fare: Free  
Crossing: 60 min.  
Hatteras Inlet

All schedules subject to change due to weather or mechanical issues.

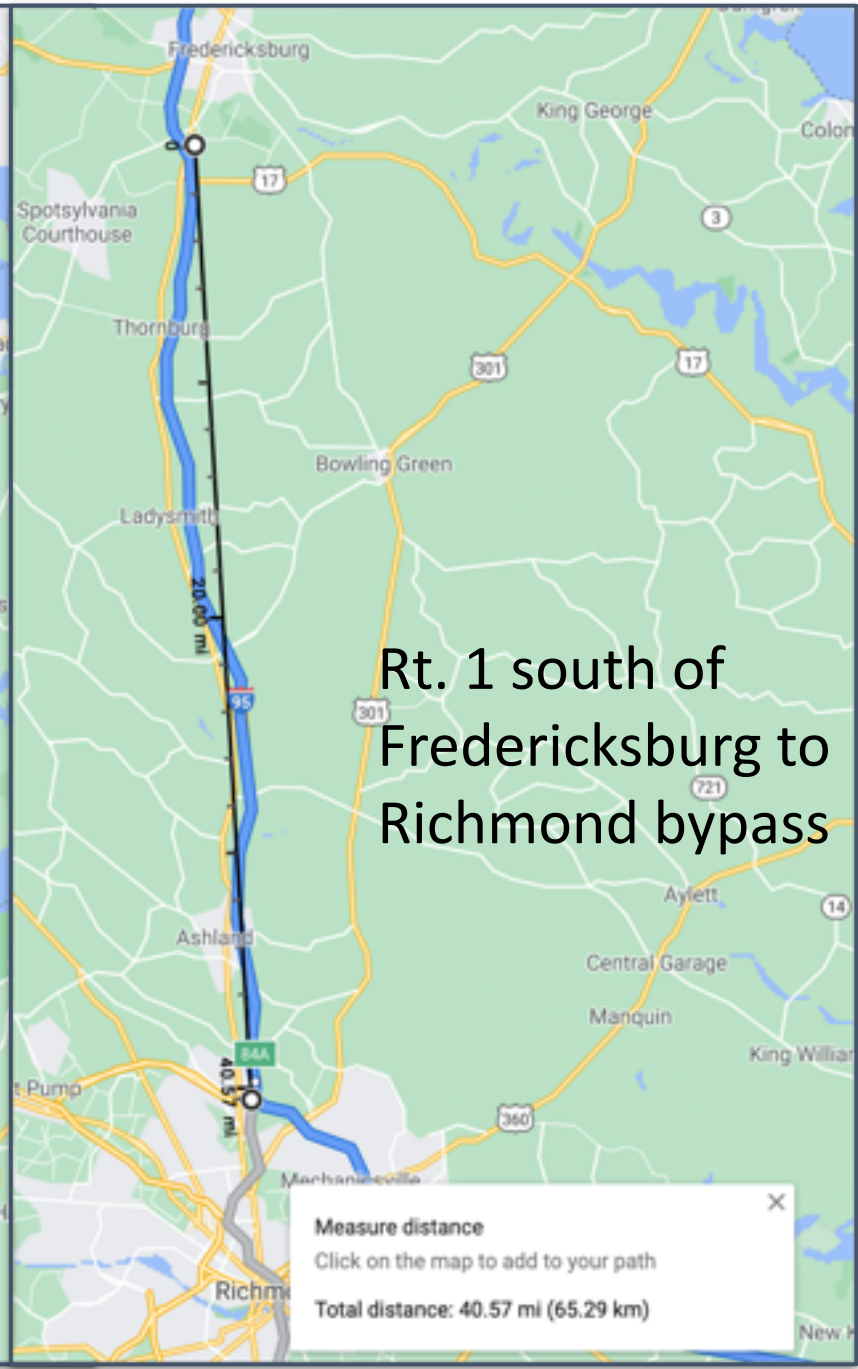
DC beltway to  
Occoquan bridge



Occoquan to  
Rt. 1 south of  
Fredericksburg

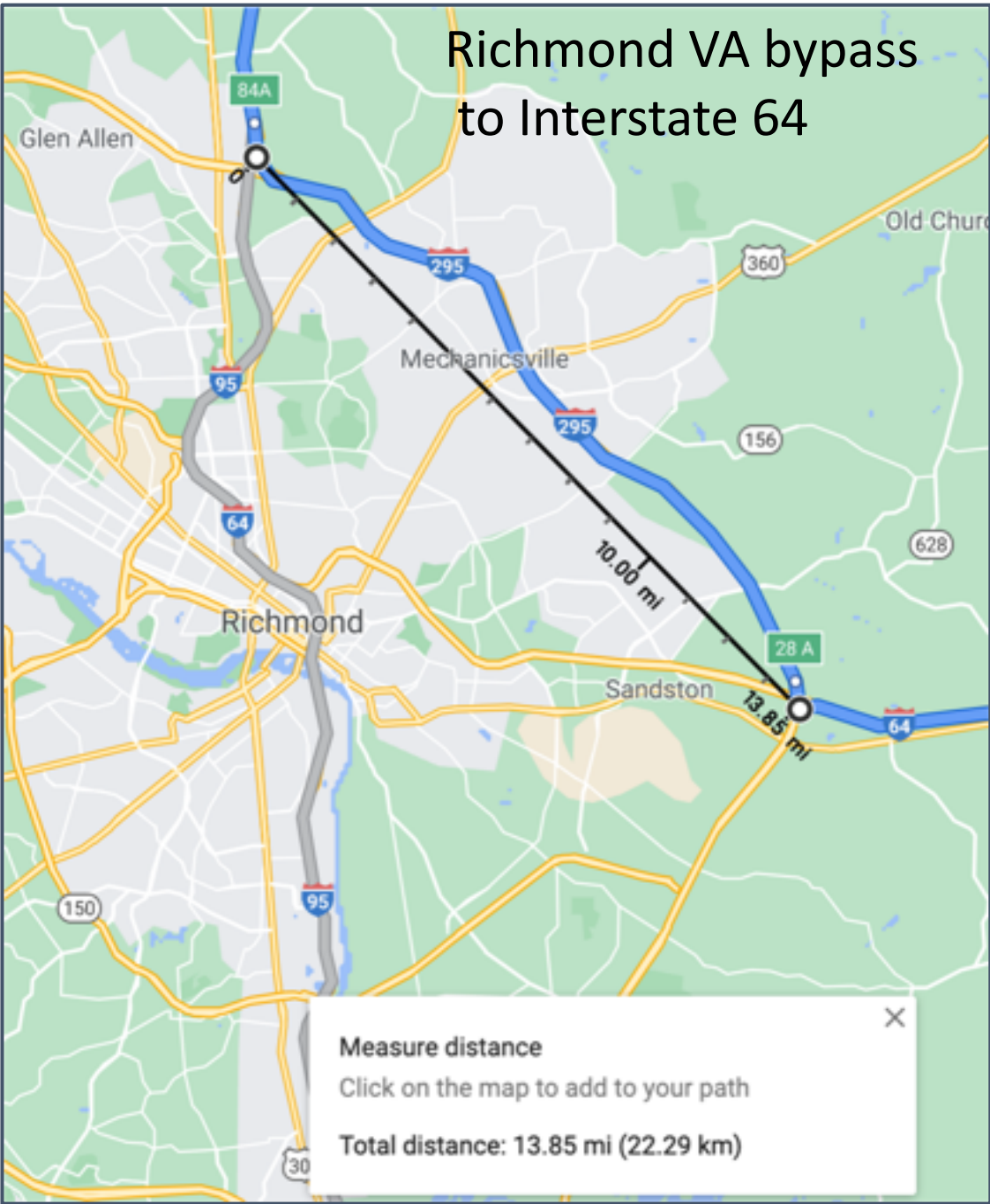


Rt. 1 south of  
Fredericksburg to  
Richmond bypass

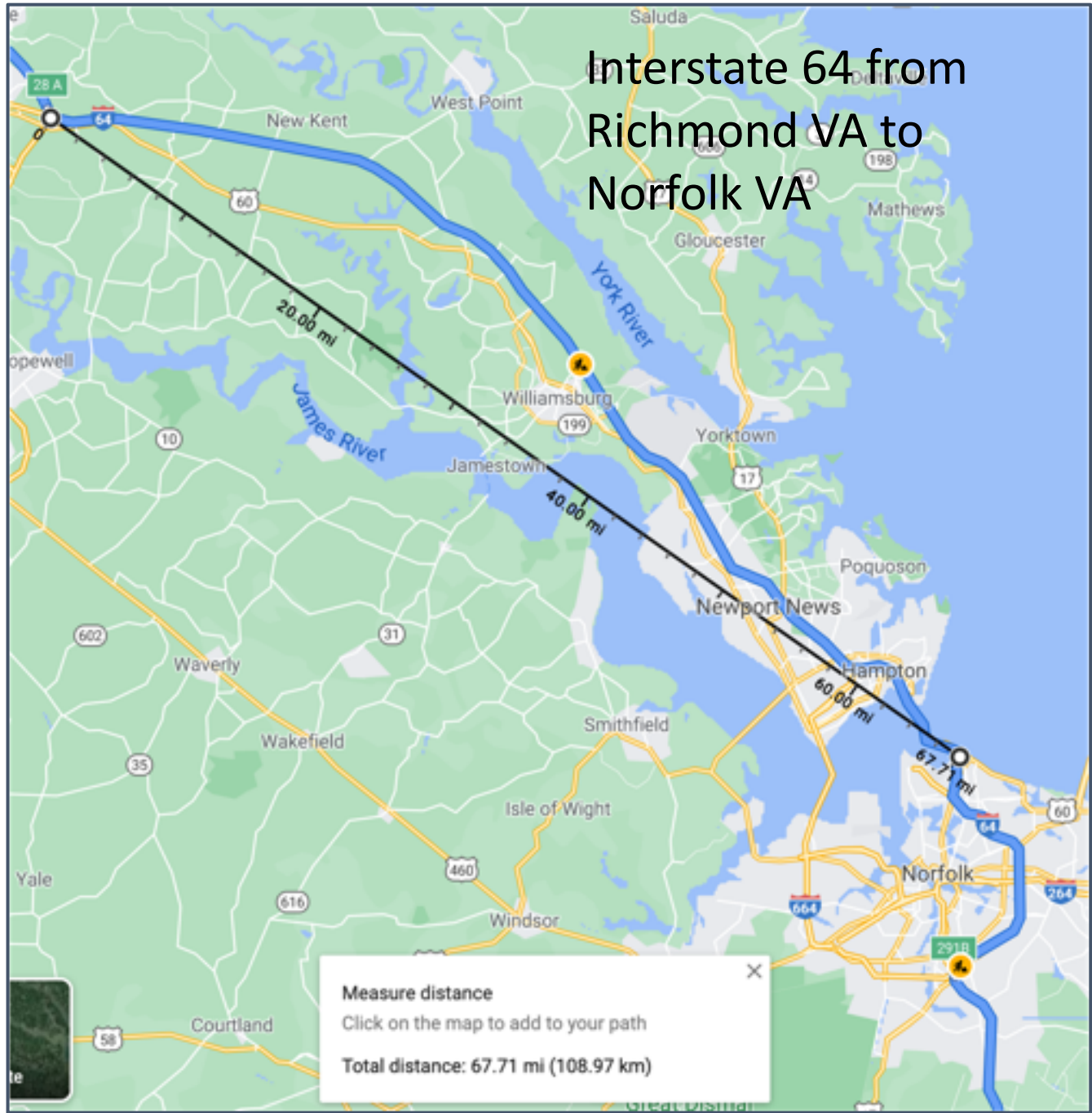




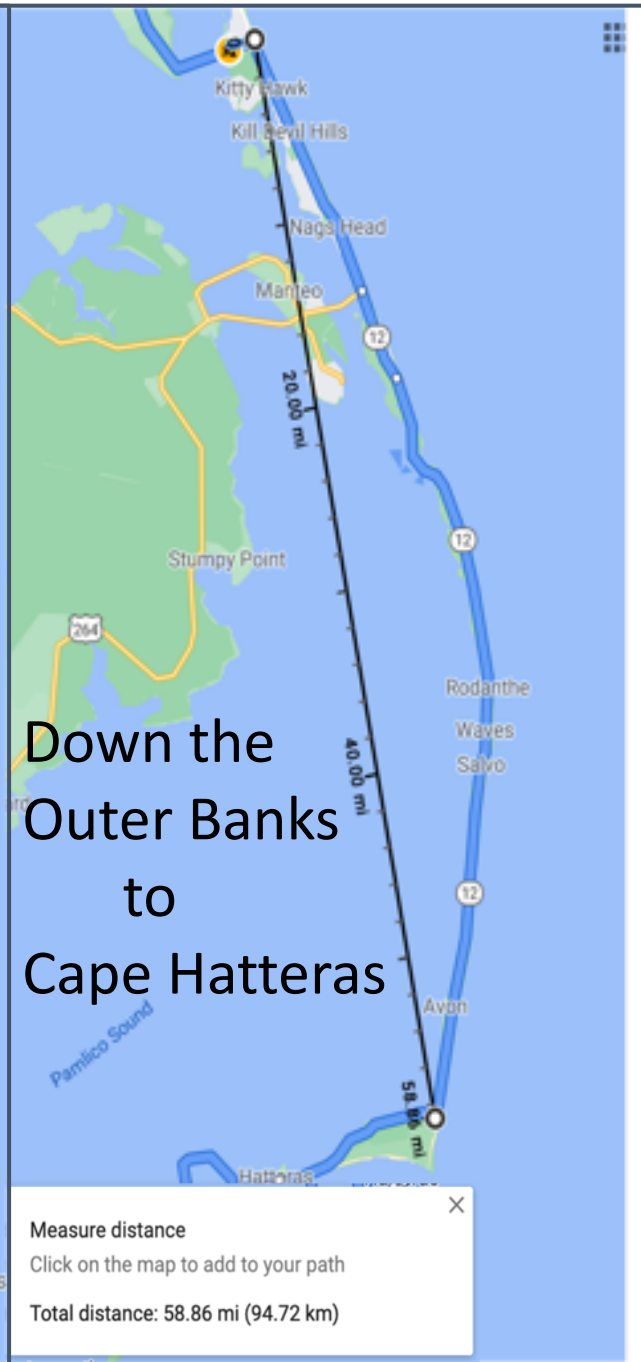
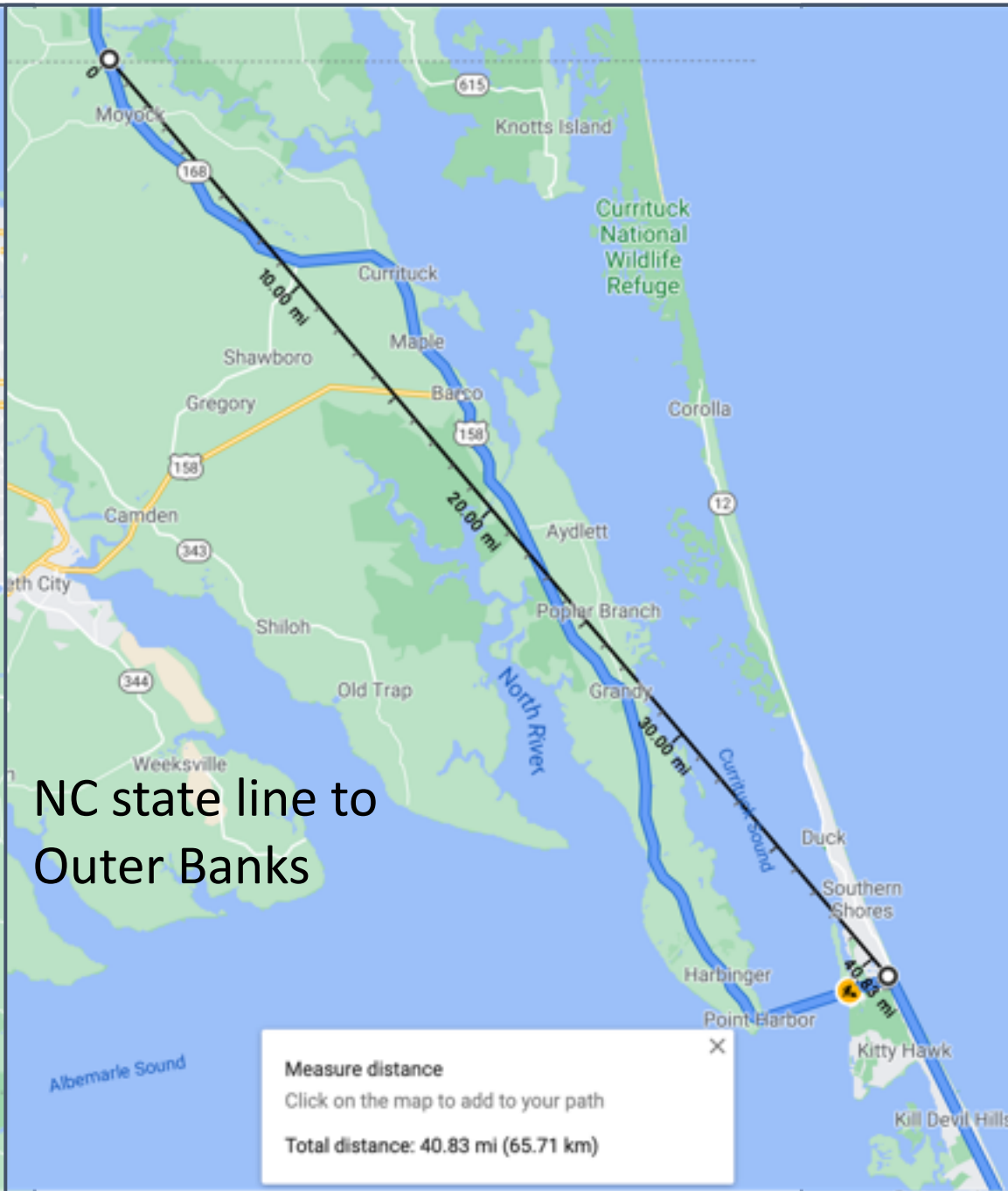
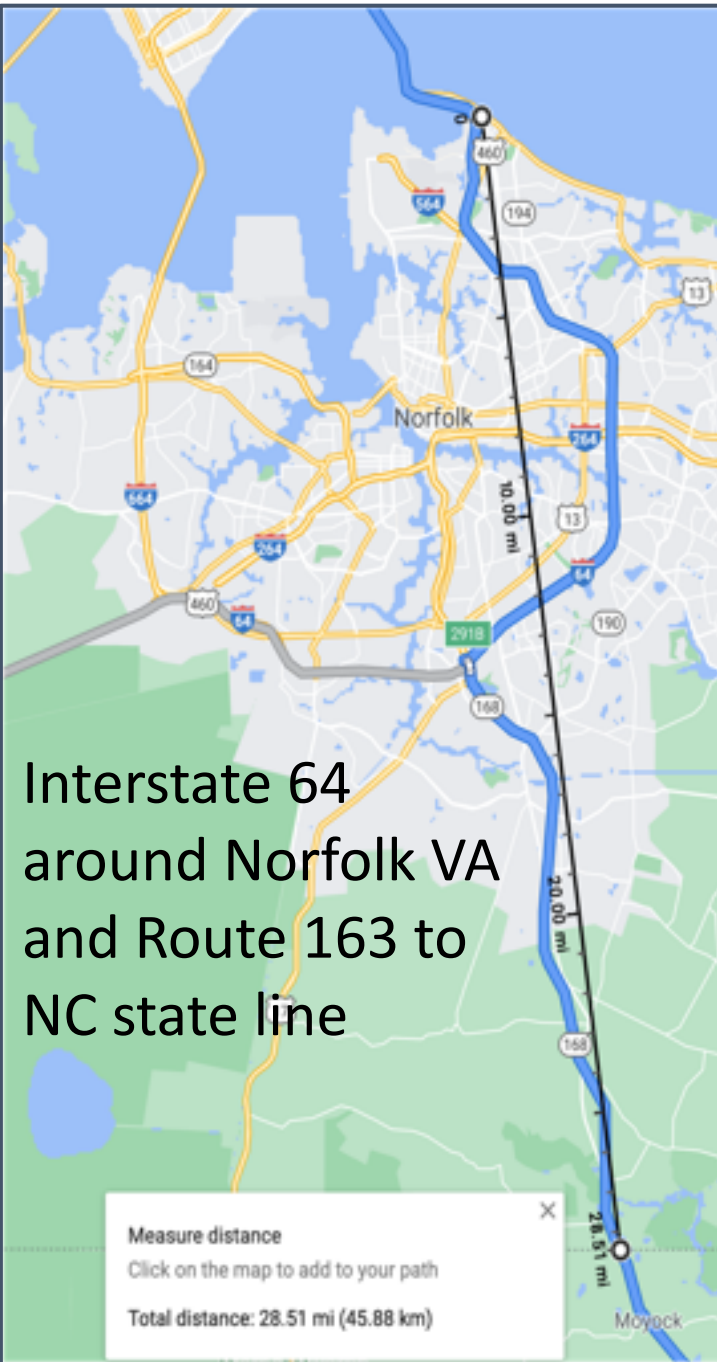
# Richmond VA bypass to Interstate 64



# Interstate 64 from Richmond VA to Norfolk VA









NORTH CAROLINA FERRY SYSTEM

Hatteras Ocracoke

### Current Schedule

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12:00 a.m.	12:00 a.m.

Fare: Free  
Crossing: 60 min.  
Hatteras Inlet

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ferry crossing

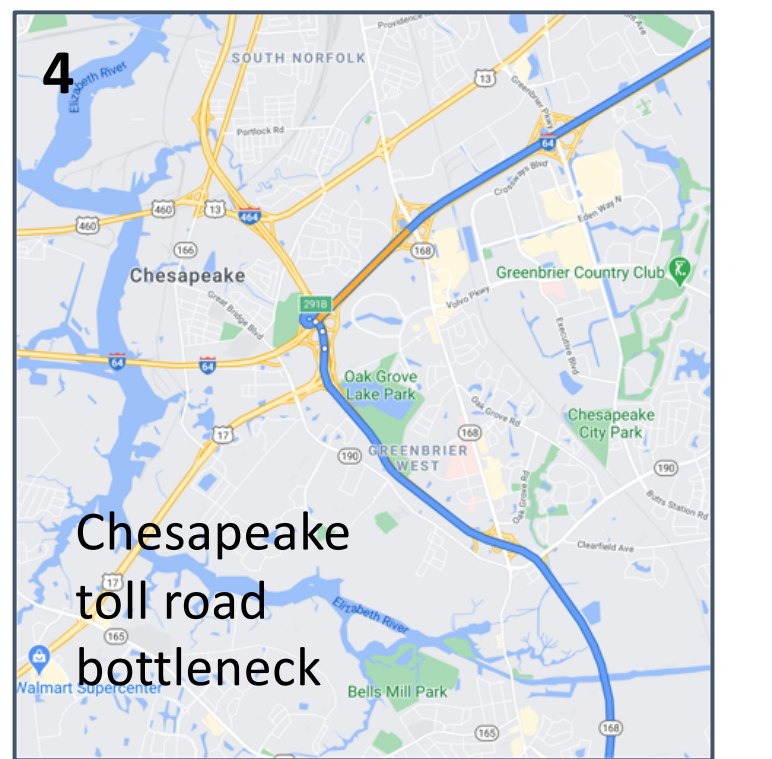
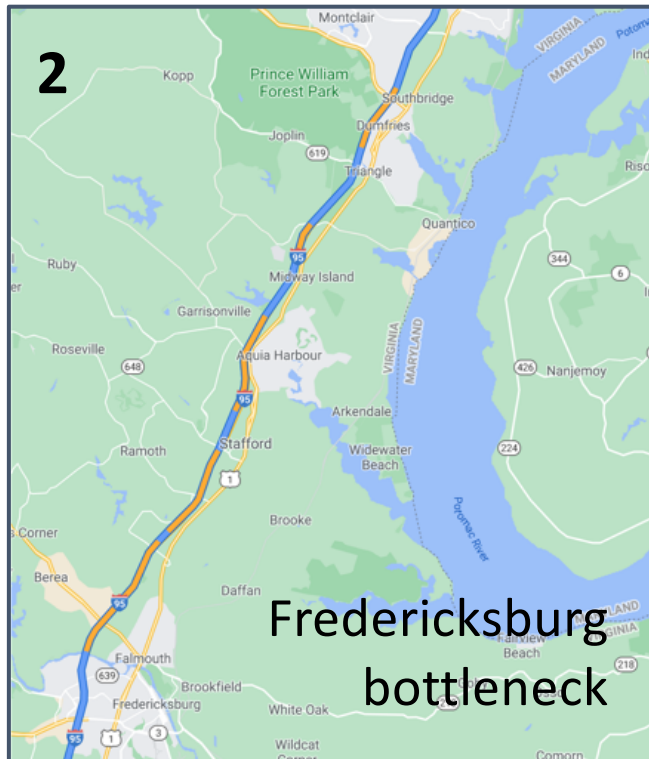
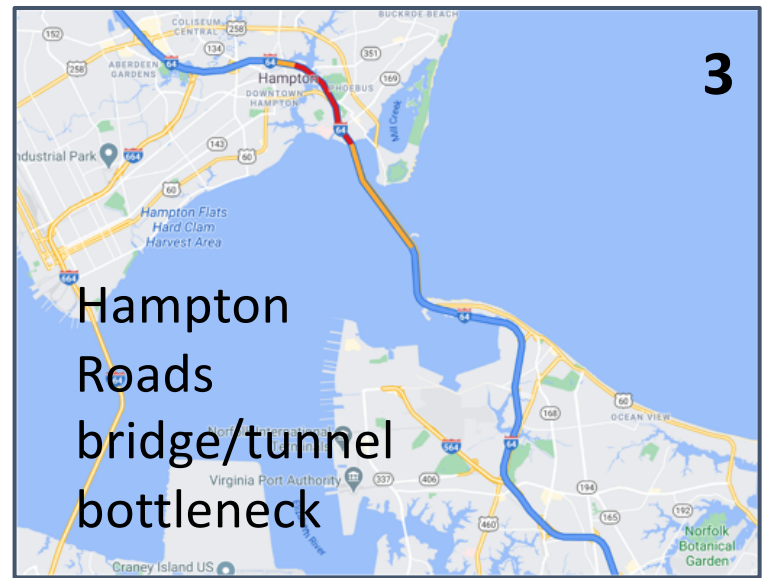
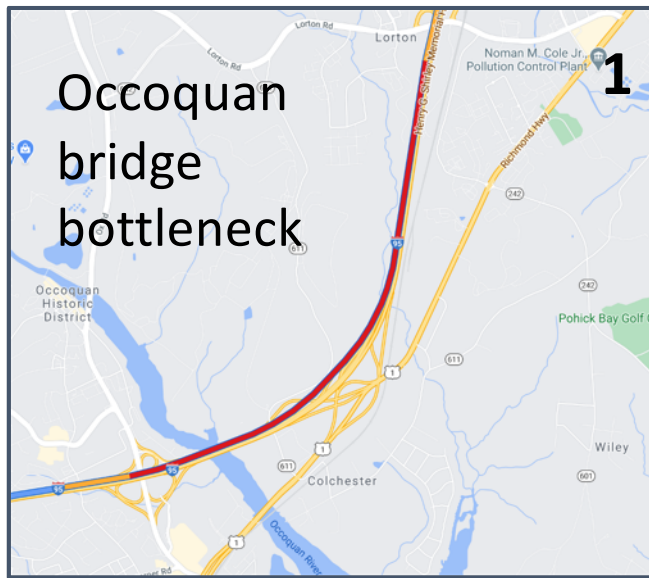
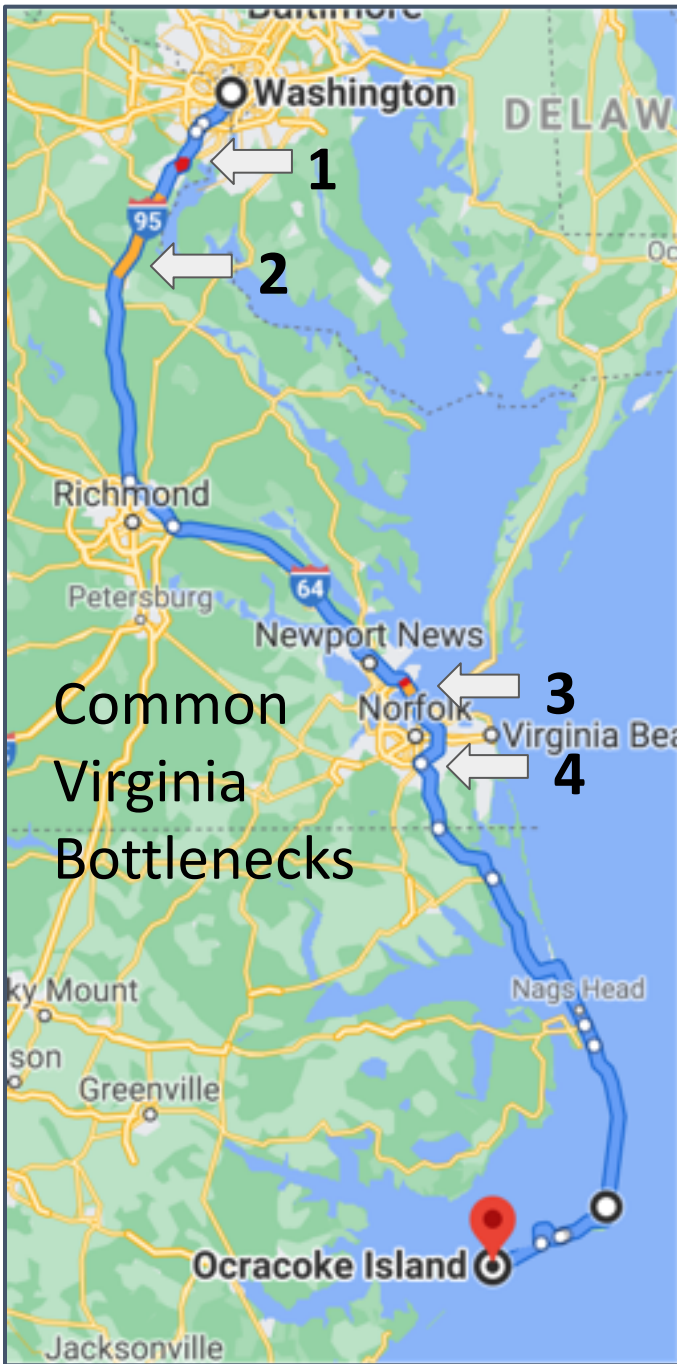


Measure distance  
Click on the map to add to your path  
Total distance: 12.63 mi (20.33 km)

Measure distance  
Click on the map to add to your path  
Total distance: 12.45 mi (20.04 km)

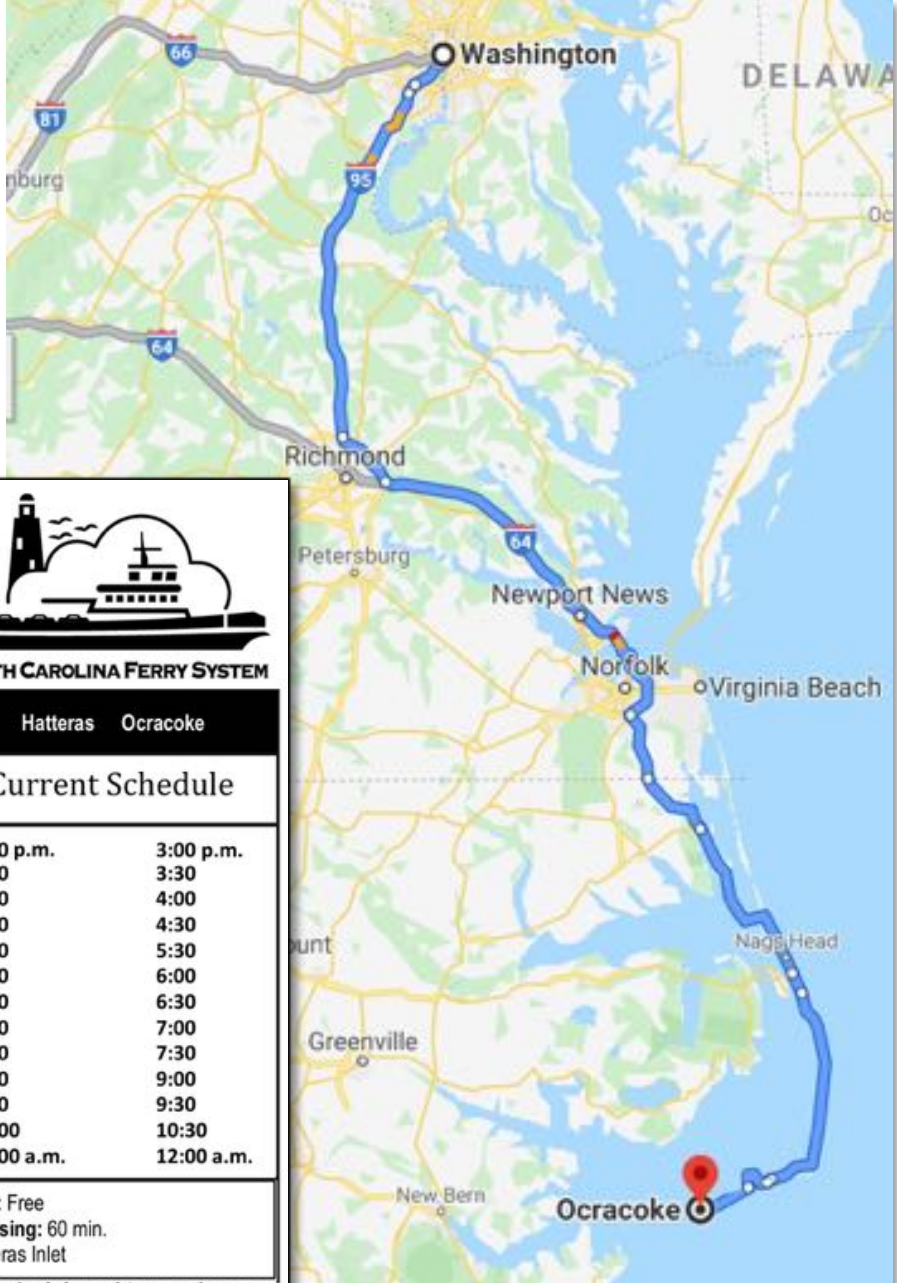
Cape Hatteras to Ocracoke





# What time do you leave?

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Hatteras Ocracoke

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Hatteras Inlet

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# What's the plan?

- Who has the shortest travel time estimate?
- Who has the longest?
- Who has the latest start time?
- Who has the earliest?
- Whose start time + travel time == 6:30 PM?

By Dan Perry (danperry.com) (CC BY 2.0)



By rbaldwin1949 (pixabay.com)

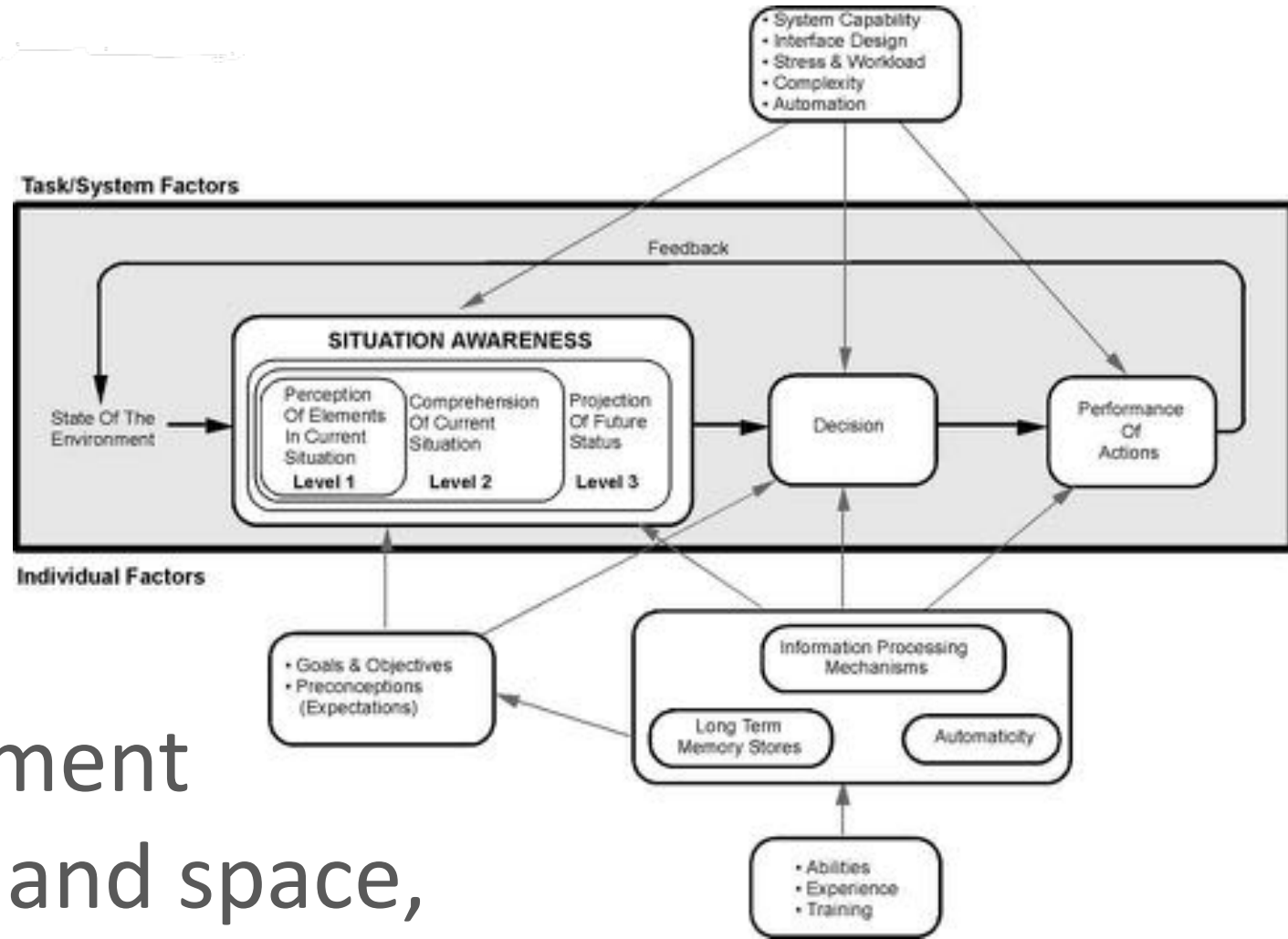




# Toward a Theory of Situation Awareness in Dynamic Systems

MICA R. ENDSLEY,<sup>1</sup> *Texas Tech University, Lubbock, Texas*

“Situation Awareness is the **perception** of the elements in the environment within a volume of time and space, the **comprehension** of their meaning, and the **projection** of their status in the near future.”



# Pay Attention!

Watch out for threats  
&  
Don't overlook  
opportunity





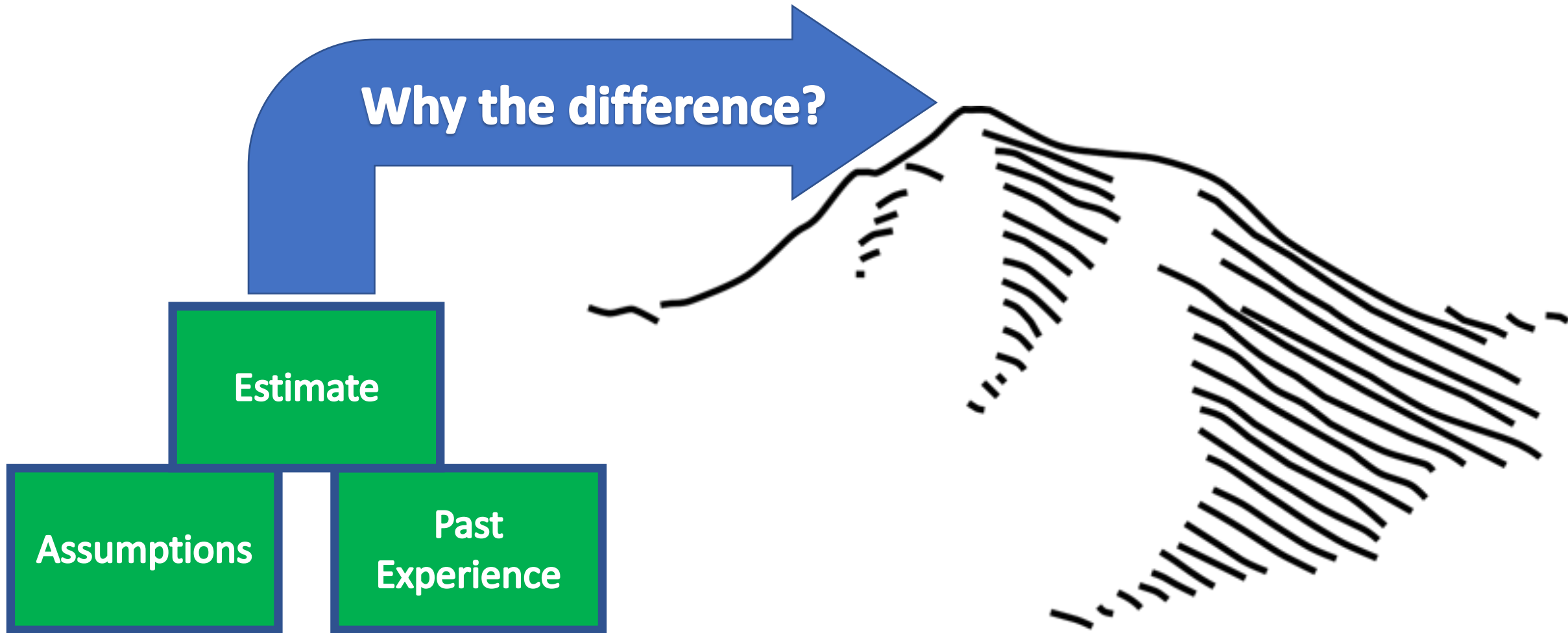
# People are depending on you

How can you tell if you're not going to meet your plan?

How soon can you tell if you're not going to meet your plan?

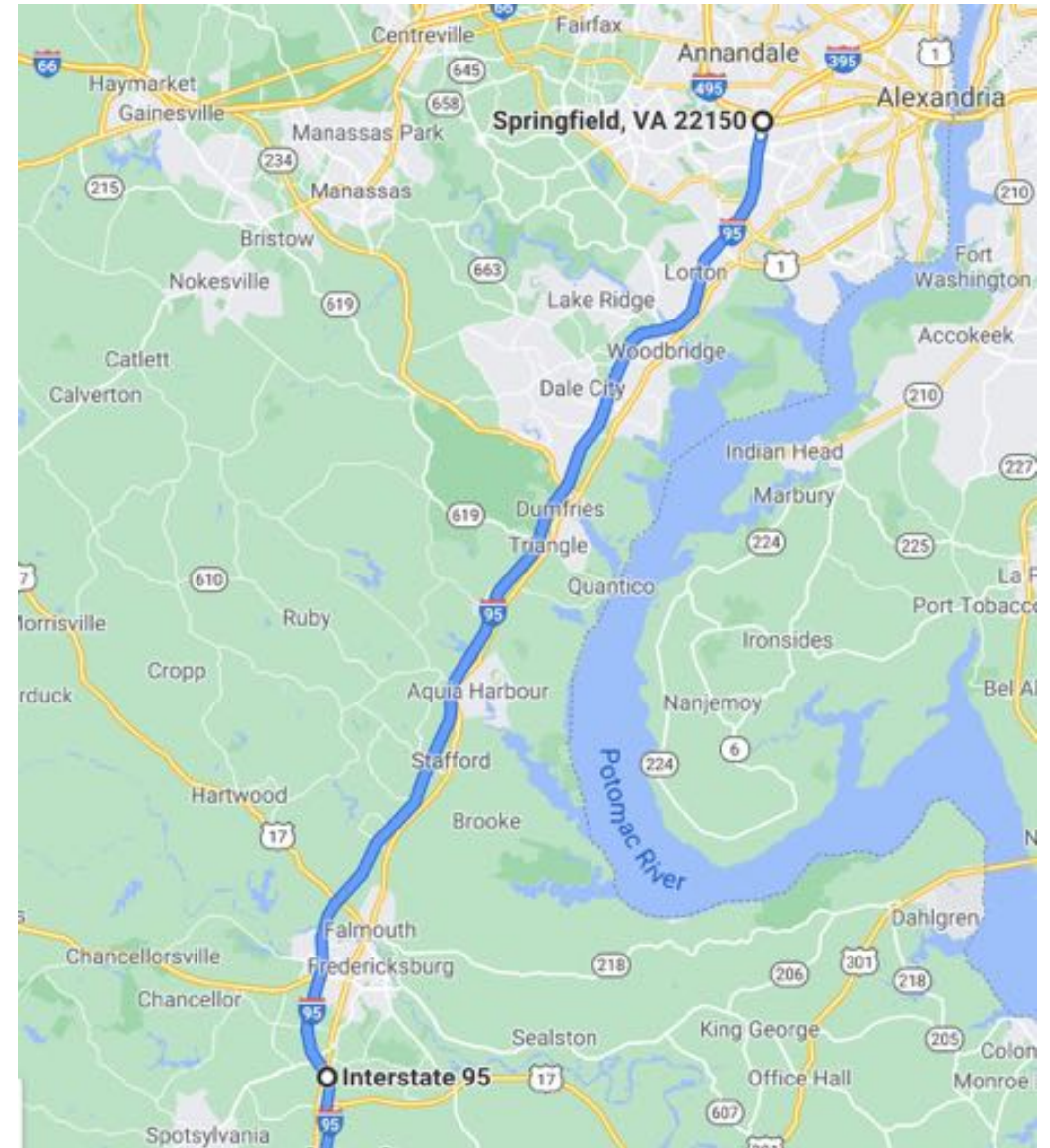


# How can you tell?



# How soon can you tell?

- It's 45 miles from I-495 & I-95 to I-95 & Rt 1 beyond Fredericksburg
- The posted speed limit is 65 MPH
- How long should that take you?
- What does it mean for the rest of the trip if this takes 1½ hours?





Was this due to a one-time delay?

Do we have a contingency buffer to cover this delay?



How about periodic  
delay events?

How often might we  
incur these delays?

How long might a  
delay be?



Will this affect our speed in the future?

What other of our estimates depend on our assumption of the maximum speed we can maintain?





Will conditions  
limit our expected  
rate of progress?

What estimated  
future segments  
depend on the  
same assumption of  
rate?



Was this not  
comparable to  
our experience?

Perhaps our plans  
are riskier than  
we thought. What  
alternatives do we  
have?







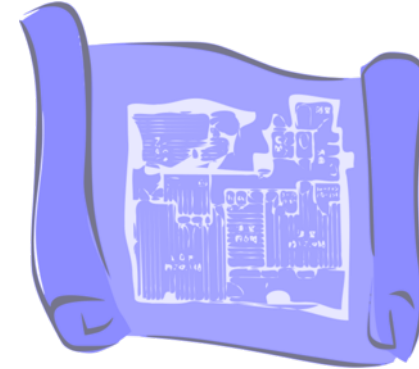
What can you do about it?



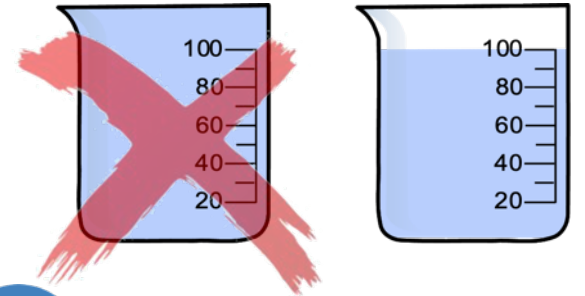
La Merde Arrive!

# Estimates are not plans

Let estimates inform your plans,  
not replace them



Expect the unexpected, and plan for it



When estimates and reality differ,  
believe reality



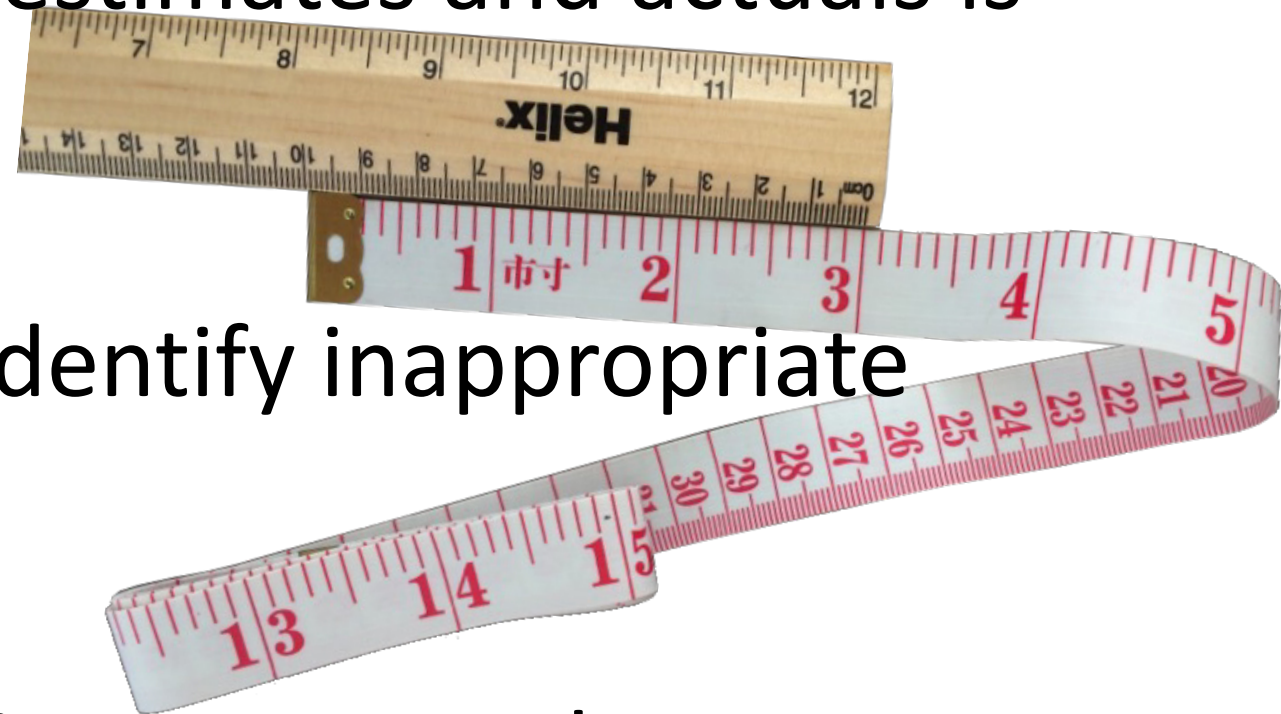


# Estimates make assumptions measurable

The difference between estimates and actuals is information

Use this information to identify inappropriate assumptions

Adjust your plans to achieve your goals





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<https://pragprog.com/titles/gdestimate/>

The  
Pragmatic  
Programmers

# Software Estimation Without Guessing

Effective Planning  
in an Imperfect World

use code **GDESTIMATE\_AGILE\_2022**



George Dinwiddie  
edited by Adaobi Obi Tulton