



Continuous Flow Hybrid Intersection Indian River Road and Kempsville Road Improvements City of Virginia Beach

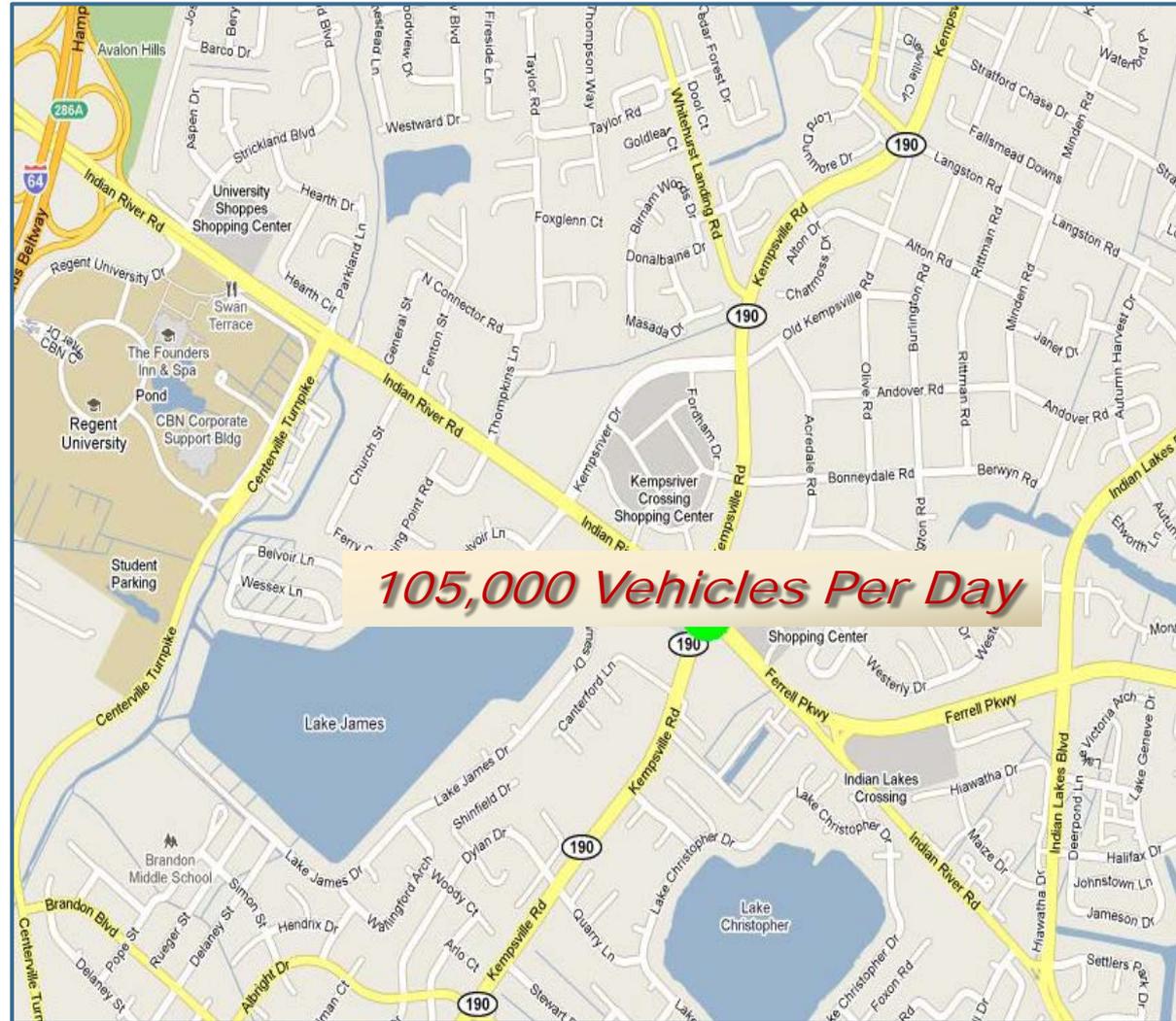
Taha Ataya, P.E.
Senior Project Manager
Transportation Division

July 12, 2012

UCI Annual Meeting

Current Conditions

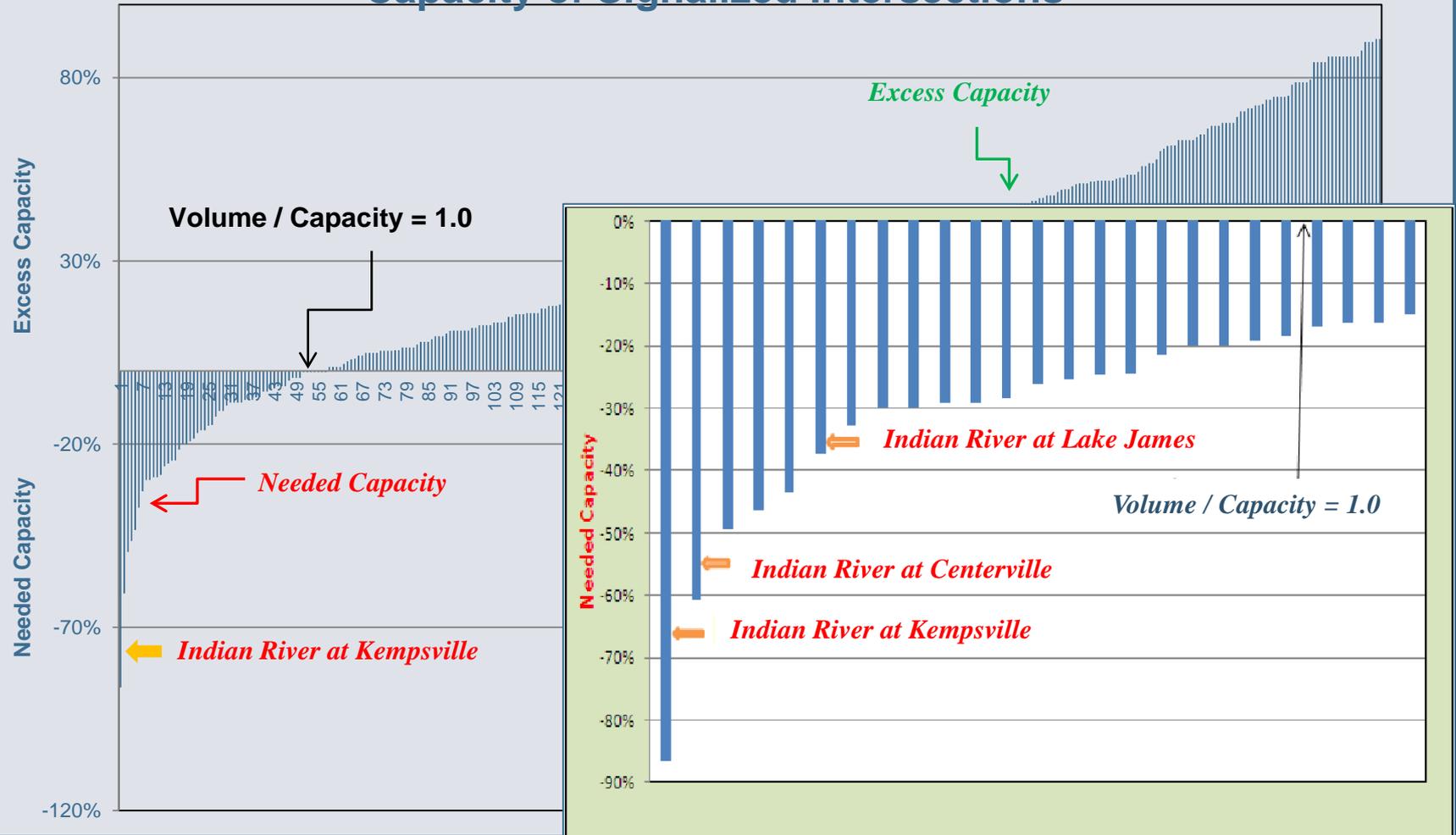
- ❖ Most congested intersection in the City.
- ❖ Access and maintenance issues.



Signalized Intersections - V/C Rank



Capacity of Signalized Intersections



Indian River Road-Kempsville Road





Balancing Needs

❖ Three traditional options to address the problem:

1. Lane additions at grade.
2. Grade separated interchanges.
3. No build.

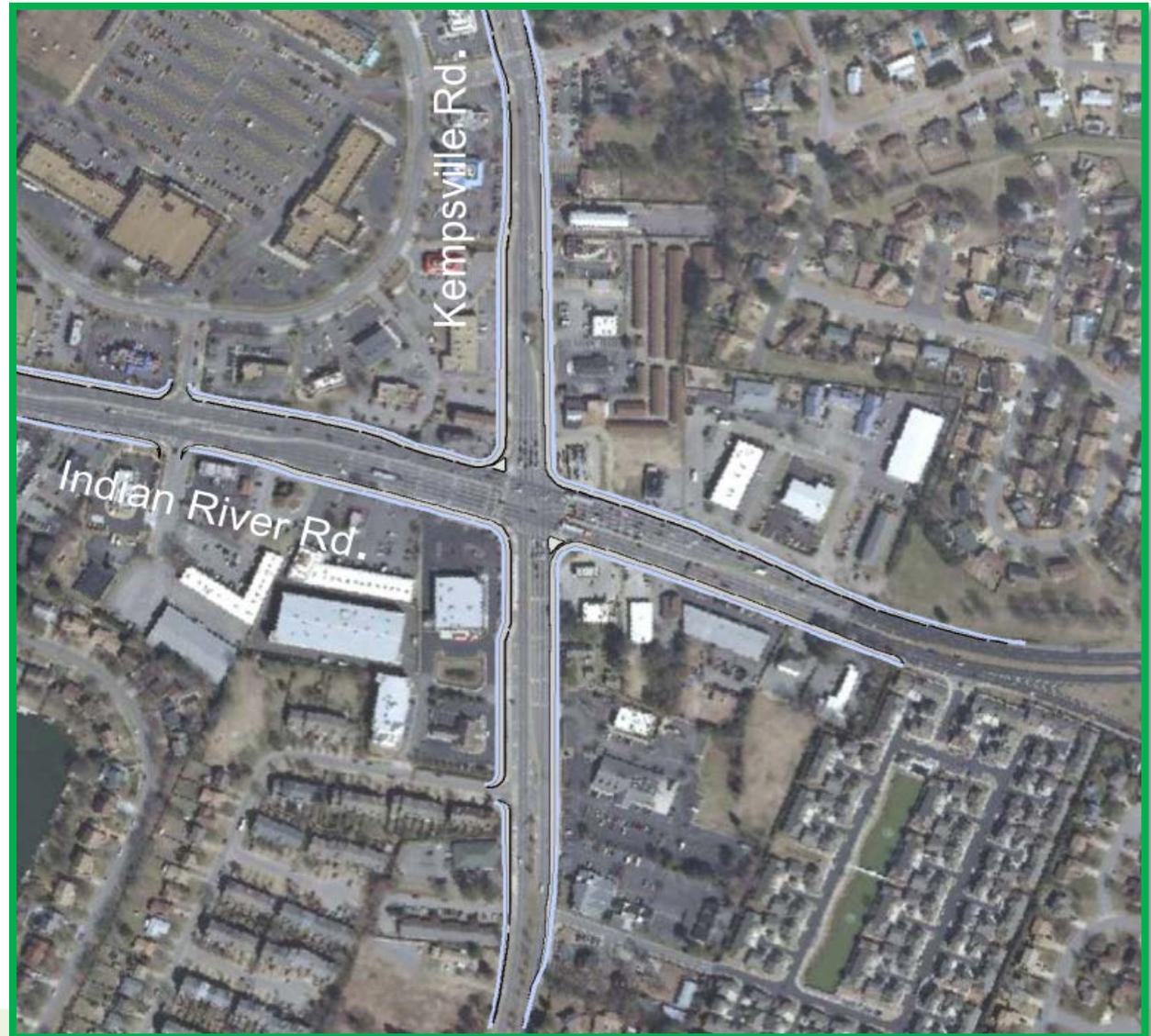
Or

❖ Consider an innovative approach:

4. Non-traditional improvement.

Traditional Improvements – At Grade – Lane Additions

- ❖ Large footprint.
- ❖ Needs extensive Right of Way.
- ❖ Expensive, and disruptive.
- ❖ Estimated at \$37 Million.



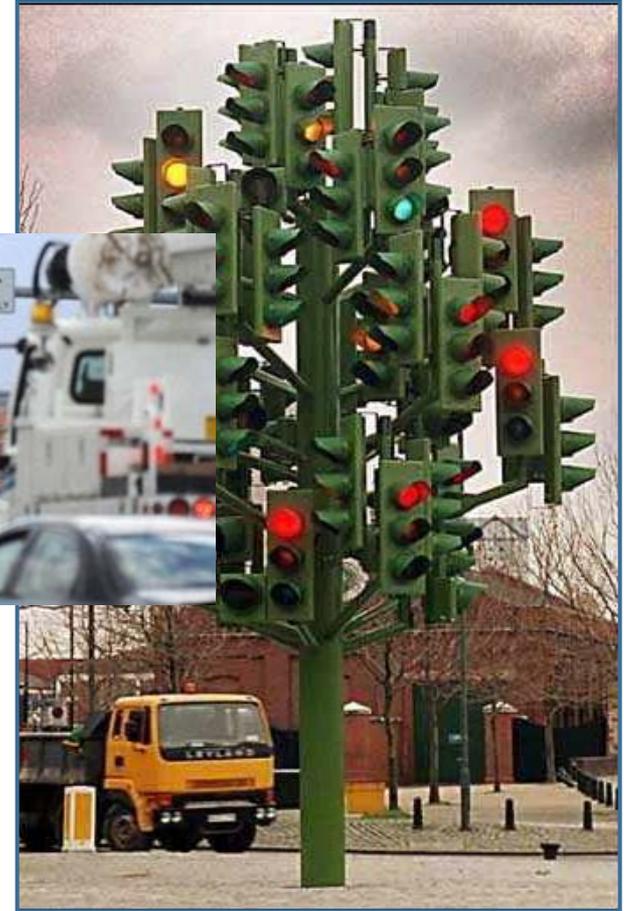
Traditional Improvements – Grade Separated – Interchanges

- ❖ Large footprint.
- ❖ Needs extensive Right of Way.
- ❖ Eliminates access
- ❖ Estimated at over \$60 Million.



Traditional Improvements – No-Build Option

- ❖ Does not address problems.
- ❖ Does not meet future needs.
- ❖ Stifles commerce.
- ❖ Impacts quality of life.
- ❖ Unacceptable congestion.



Intersection Design – Typical Signal

- ❖ Four typical phases: two through and two turns.
- ❖ Each phase requires green time and a short clearance time.
- ❖ Best to eliminate phases when possible.



Median U-Turn on Indian River Road

To Make A Left From Indian River to Kempsville

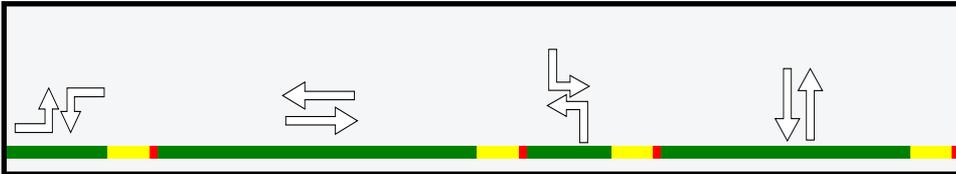


Time Shared - Greater Green Time Available
To Both Movements Simultaneously

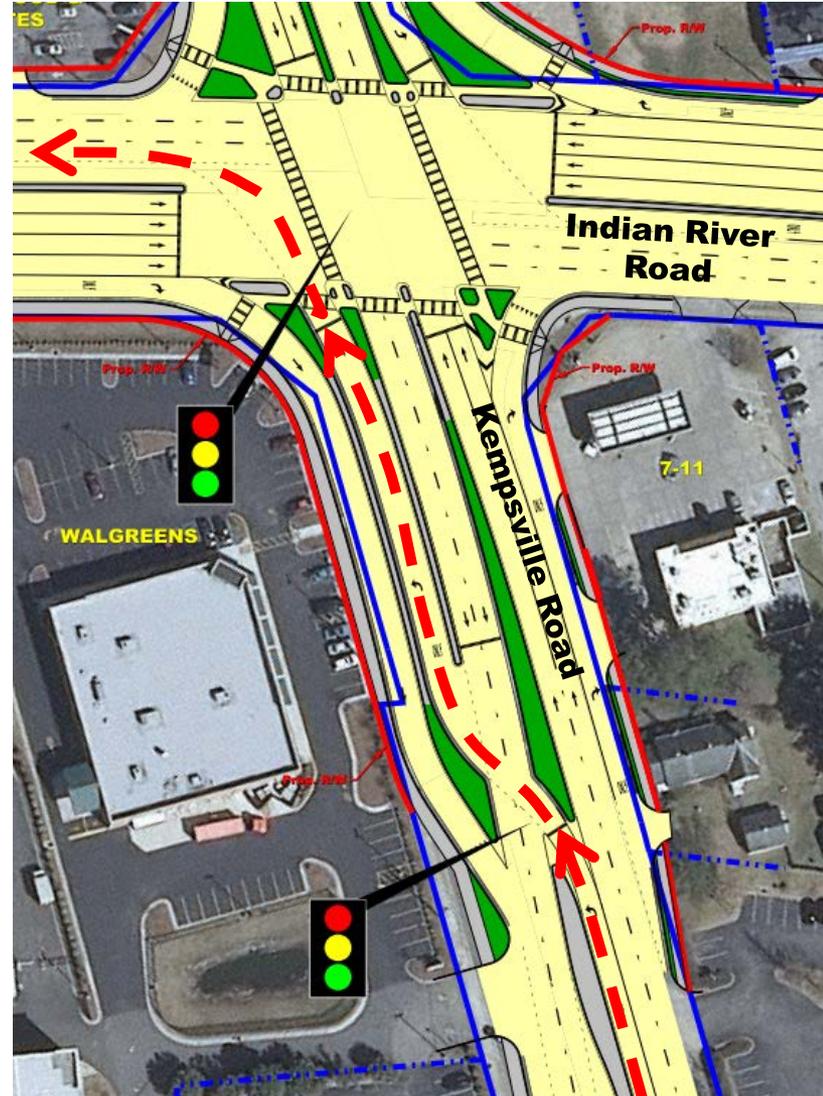


Displaced Left Turn on Kempsville Road

To Make A Left From Kempsville to Indian River



Greater Green Time Available To Both Movements Simultaneously





Moving Forward

- ❖ Total estimated cost for the project is \$10.4 million.
- ❖ Project is funded with City and Federal Congestion Mitigation and Air Quality funds.
- ❖ No other option provides the level of improvements for the cost.

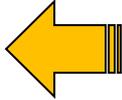


Project Development Milestones

Phase	Cost	Begin	End
Design	\$ 984,000	Ongoing	Spring 2013
Right of way	\$ 3,500,000	Winter 2012	Spring 2014
Utility relocation	\$ 525,000	Spring 2014	Fall 2015
Construction	\$ 4,500,000	Fall 2015	Fall 2016
Street lighting	\$ 150,000	Spring 2016	Fall 2016
Contingencies	\$ 750,000	Spring 2013	Fall 2016
Total	\$ 10,409,000		



Project Status

1. Approaching 60% Design.  *September*
2. Project is fully funded with CMAQ and City funds.
3. NEPA process is ongoing: Phase I ESA complete.
4. Citizen Information Meeting complete.
5. Design & Location meeting November 2012.



UCI Annual Meeting

July 12, 2012