



When the Beaver Comes to Town

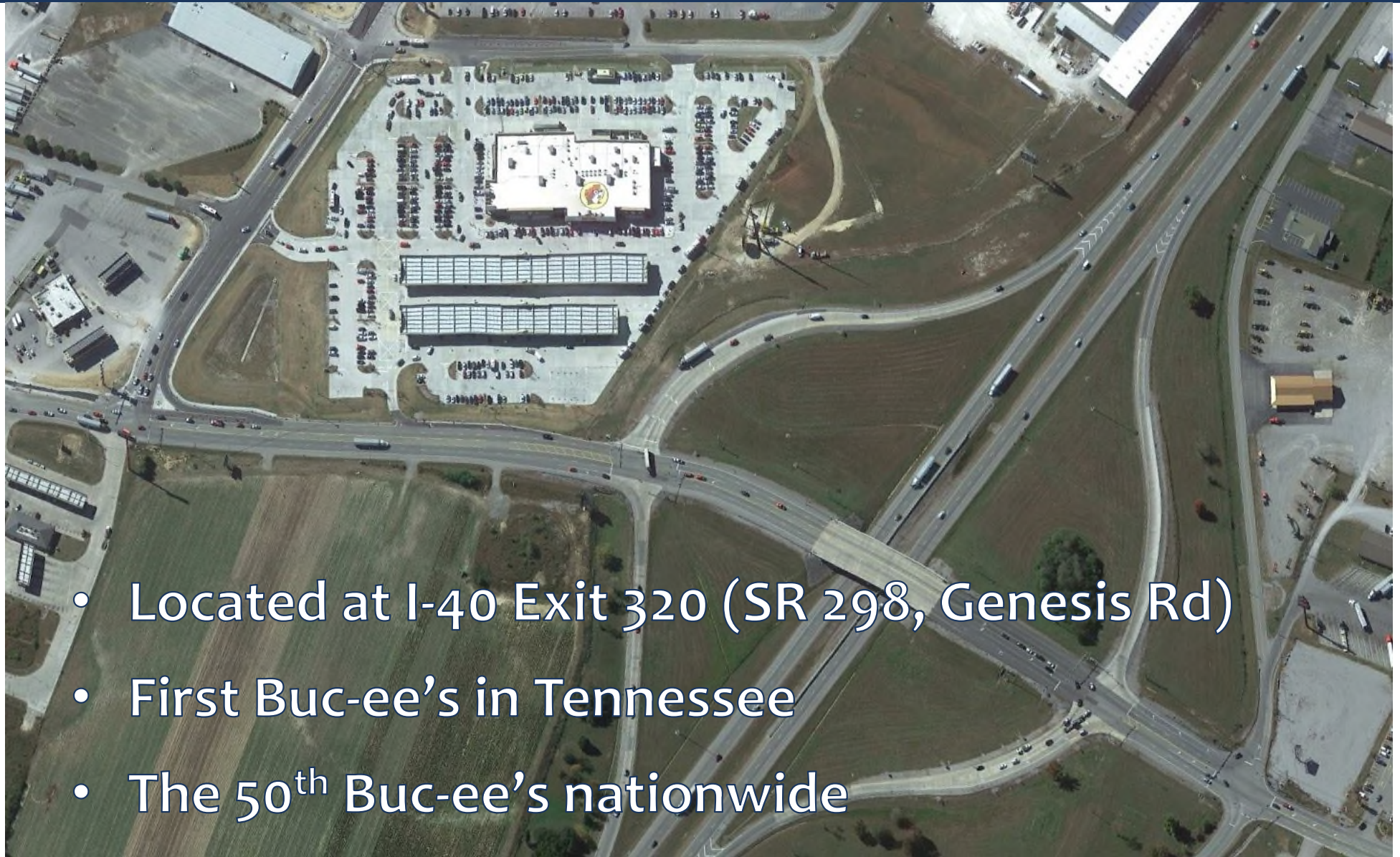
Thursday May 16, 2024
Joint Meeting of TSITE and ASHE TN Valley
Chattanooga, TN

Landon Castleberry, P.E.
Region 2 Traffic Operations Engineer

Welcome to Chattanooga

- The “Scenic City of the South”
- Great homebase for outdoor activities
- Chattanooga is derived from Cherokee word “Tsatanugi” meaning “rock coming to a point”
- Home of Coca-Cola’s first bottling company
- Tennessee Aquarium opened May 1, 1992

When the Beaver Comes to Crossville



- Located at I-40 Exit 320 (SR 298, Genesis Rd)
- First Buc-ee's in Tennessee
- The 50th Buc-ee's nationwide

When the Beaver Comes to Crossville

- Will share my involvement in helping to bring the Buc-ee's to fruition.
- Will share my mistakes.
- Will share how we addressed those mistakes.
- Will share how well things are functioning now.

How it All Started...

- **Summer 2019**
- **Met w/ representatives of Buc-ee's, their consultants, and the City of Crossville**
- **120-pump gas station w/ approx. 50,000SF of retail**
- **Buc-ee's originated in Texas**
- **Known for beaver nuggets, brisket, and clean bathrooms**



How it All Started...

- **120 pumps? Say what? Is that a typo?**
- **What is the ITE Trip Generation code for such?**
- **They offered to perform a Traffic Impact Study (TIS).**
- **Unprecedented scale in my experience**
- **This was gonna be a big deal.**



Chronology of Permitting Process

- **October 2019: TDOT received TIS for review**
- **Trip generation based on existing Buc-ee's locations in Baytown, TX and Terrell, TX**



Recommendations of the TIS

- **Not asking for fully-directional driveway or a traffic signal. Rather, asking for right-in ONLY w/ decel lane.**
- **One full access onto Interstate Drive**
- **Restripe Genesis Road to allow dual left turn onto I-40 West. Widen entrance ramp to allow for 2 receiving lanes.**
- **Signal timing adjustments and interconnectivity.**



Chronology of Permitting Process

- **June 2020: TDOT approved the Final TIS**
- **July 2020: TDOT received site/grading plans for review.**
- **September 2021: TDOT issued permit to Buc-ee's**
- **TDOT had already begun widening Interstate Drive to a 5-lane roadway, so coordination is required w/ contractor**



What is Buc-ee's All About?



The Buc-ee's in Leeds, AL opened on January 25, 2021

Drove there on March 20, 2021

FIELD TRIP!!



Visiting Buc-ee's in Leeds, AL



- **HOLY MOLY!**
- **Quite the popular place**
- **Always in someone's way**
- **Feel like a running back avoiding tackles.**
- **Sweet aroma of confections**
- **Gotta try the restrooms**
- **Snagged a portrait with Buc-ee**
- **FRESH brisket on the board!**
- **Great place for people watching**

Visiting Buc-ee's in Calhoun, GA

Opened on
August 23, 2021



Buc-ee's Opens in Crossville

I-40 Exit 320
1st Buc-ee's in Tennessee
Opened June 27, 2022



Buc-ee's is a Huge Hit

Sunday October 23, 2022

I-40 Eastbound



Buc-ee's is a Huge Hit



Observations

- **Traffic volumes seem to peak on weekends, especially Sunday afternoons**
- **Queuing on I-40 EB exit ramp**
- **2-mile queue on mainline of I-40 EB**
- **TDOT deployed a trailer-mounted camera to observe operations and report to TMC**
- **TDOT deployed Protect-the-Queue trucks**



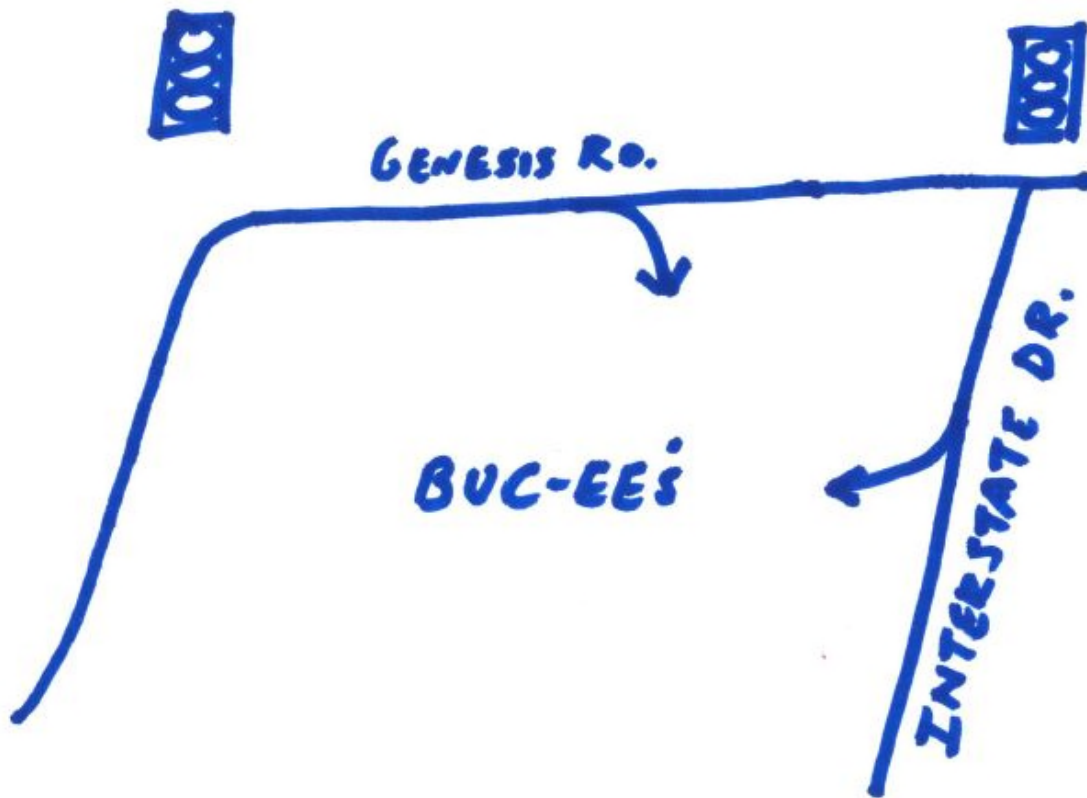
How Should We Address This?

- **Maybe the newness and fascination of the Buc-ee's will wear off and things will cool down on its own?**
- **Talk w/ City of Crossville about signal timing adjustments to allocate more green time to flush the ramps?**
- **Talk w/ Buc-ee's representatives to identify on-site strategies to move traffic along?**



How Should We Address This?

- **Communicate to drivers that other driveways exist? Don't just use the first driveway you see.**



How Should We Address This?

- **Create middle option lane on I-40 EB exit ramp? Allow dual right turn, help flush the ramp and encourage use of driveway on Interstate Drive.**



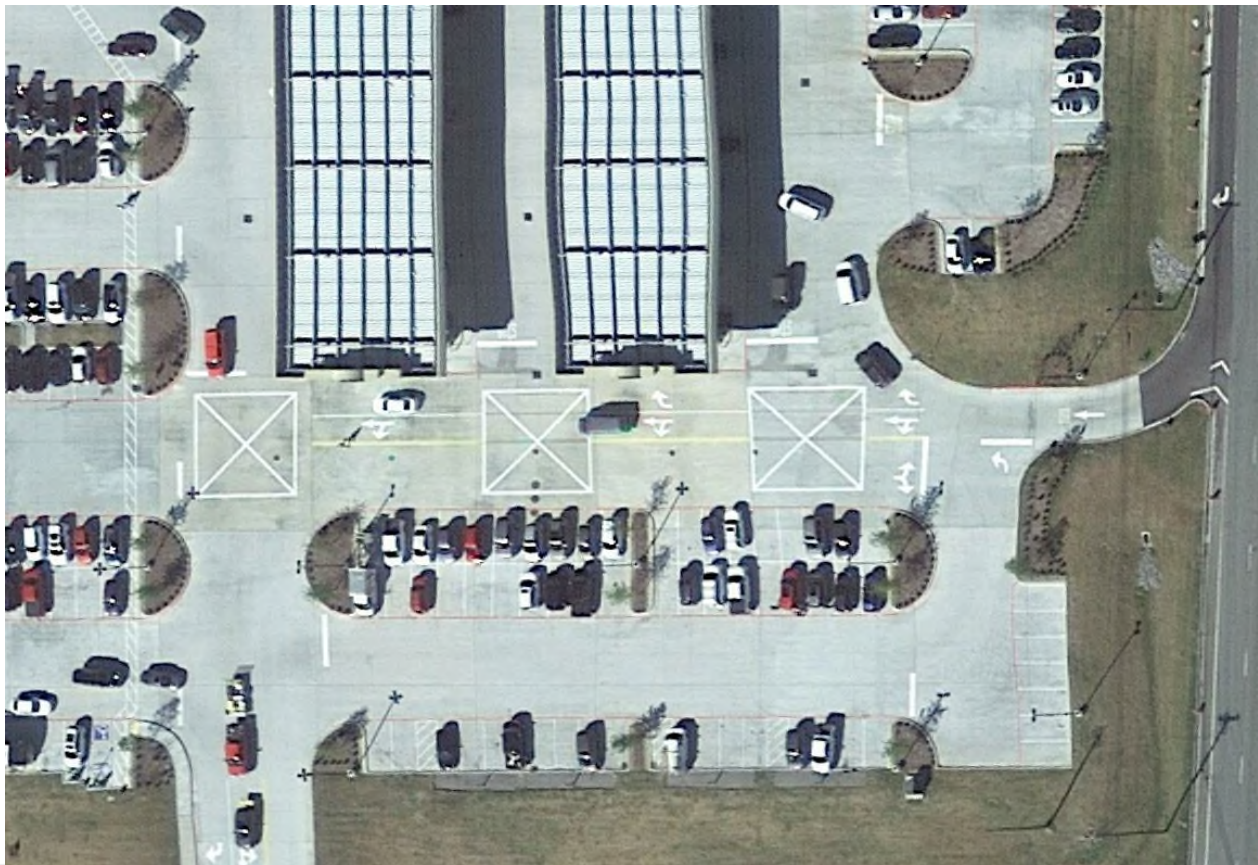
Perform a Second Study

- **Meeting in September 2023 w/ Buc-ee's representatives, Kimley-Horn, and City of Crossville to discuss mitigation strategies on-site and on ROW.**
- **Kimley-Horn performed new traffic study with updated turning movements and performed delay and queue modeling.**



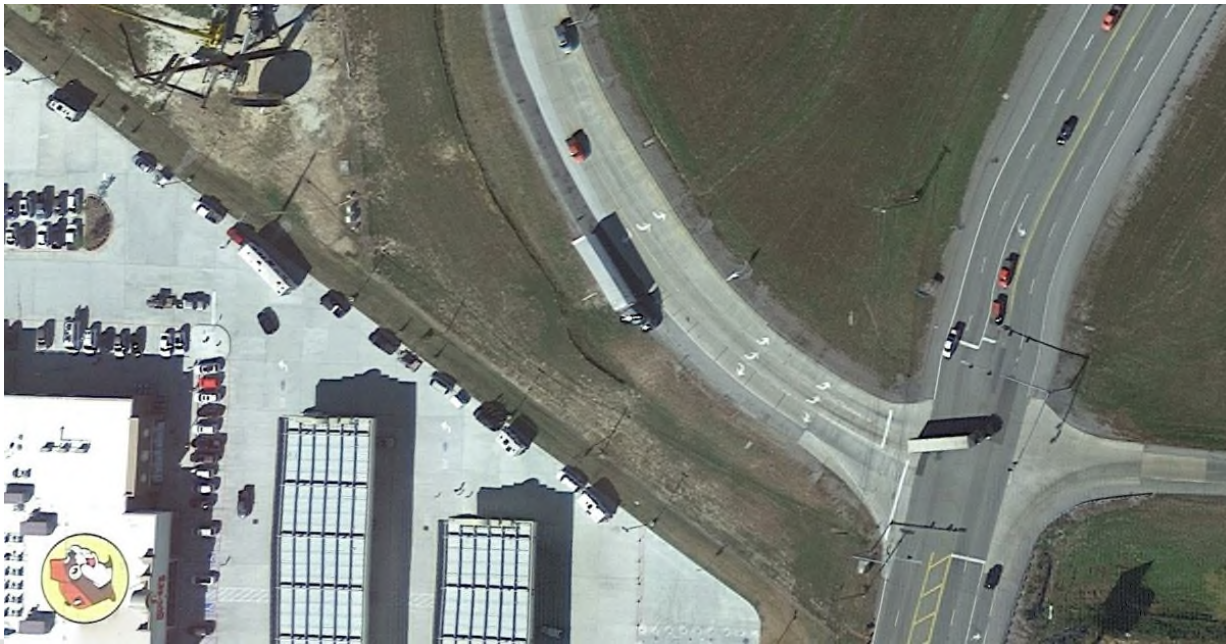
Findings of Second Study

- **Eradication of “Do Not Block” markings on Buc-ee’s site. Reduce gaps, fit more cars into site.**



Findings of Second Study

- **Discovered that there was no signal detection loop in the right turn lane of I-40 EB exit ramp.**
- **Coordination with SR 298 resurfacing project to add detection loop on ramp.**



Buc-ee's #53 in Florence, SC



I-95 Exit 170

Buc-ee's #55 in Richmond, KY



Lessons Learned

- **No matter how many trained eyes look at something, stuff will still get missed.**
- **You cannot foresee every possibility.**
- **No one is perfect. No one knows everything.**
- **Know what you don't know.**
- **Don't be afraid to ask for help.**
- **Communicate.**



Lessons Learned

- **Do not be hasty in responses. Be deliberate to make informed decisions and measured responses.**
- **You can meet all applicable standards, but things can sometimes still be done better.**
- **The internal flow of the site can easily influence operations on the highway.**



Questions?

Landon T. Castleberry, P.E.
TDOT Region 2 Traffic Ops
423-619-3165 (cell)
Landon.T.Castleberry@tn.gov

