Traffic Study

Downtown Troup Master Plan

www.troupplan.com
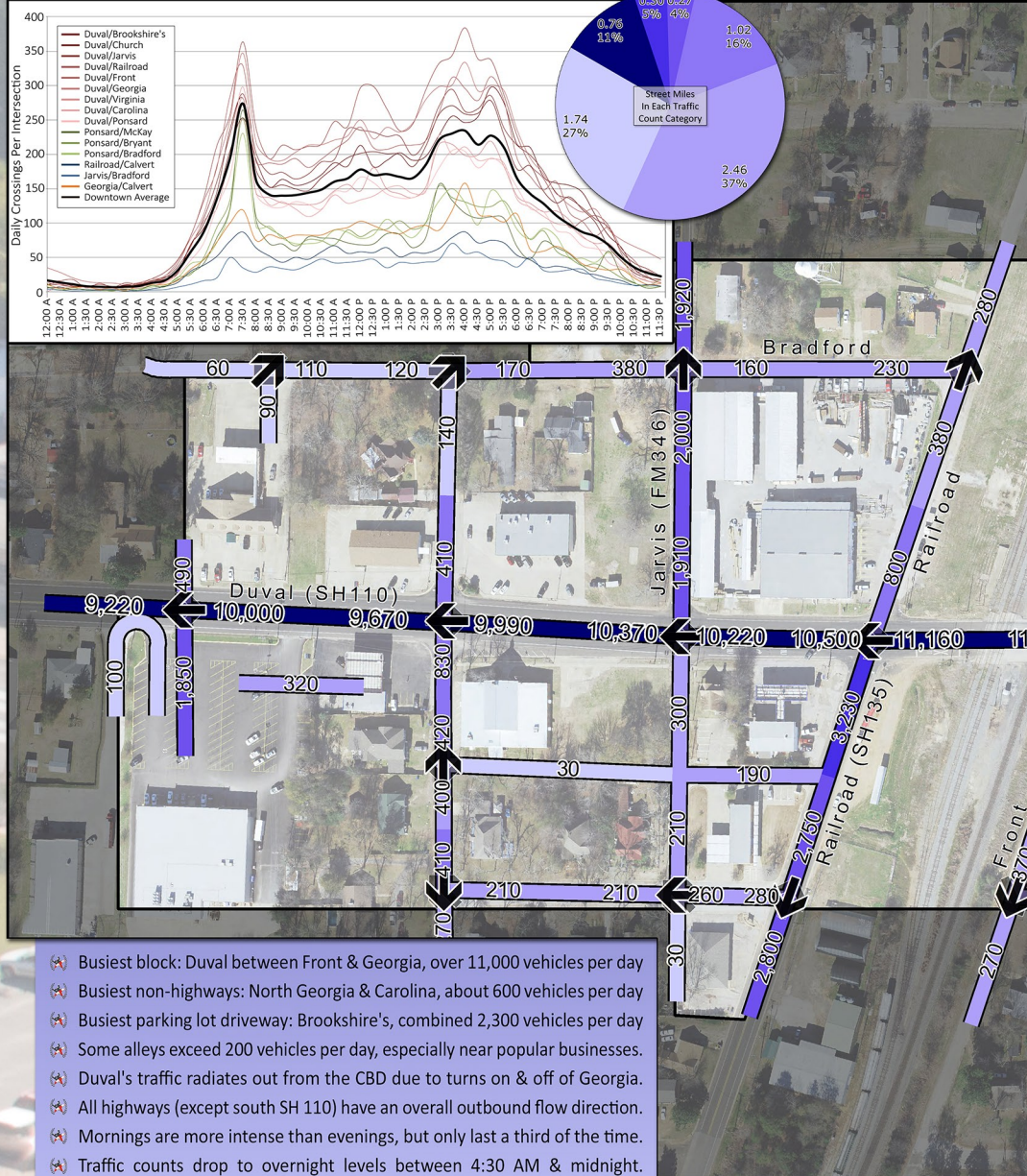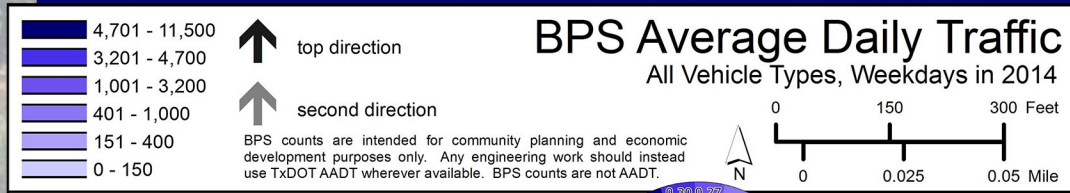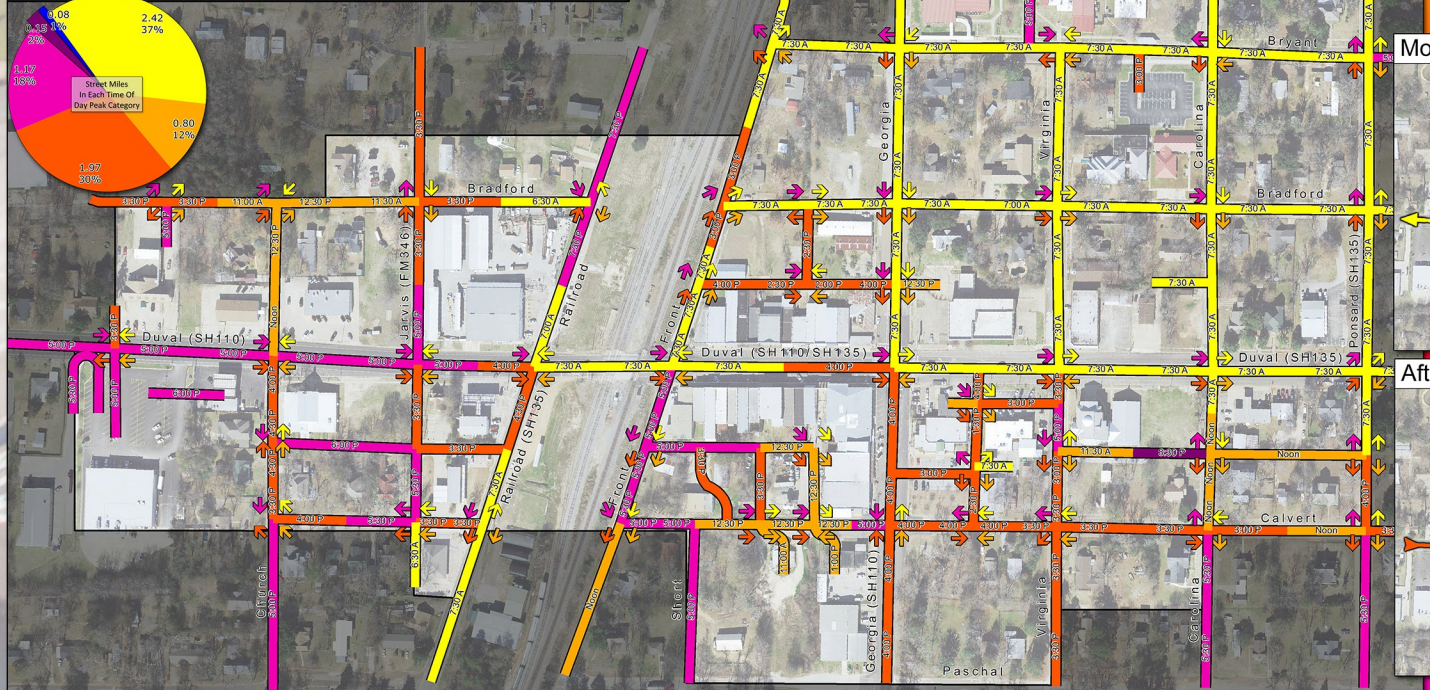
Prepared By
BPS Butler Planning Services

Prepared For
Troup Texas
TCDC

100% Saturation Traffic Volume & Turn Balance

BPS Average Daily Traffic
All Vehicle Types, Weekdays in 2014

Legend:
- 4,701 – 11,500
- 3,201 – 4,700
- 1,001 – 3,200
- 401 – 1,000
- 151 – 400
- 0 – 150

↑ top direction
↑ second direction

BPS counts are intended for community planning and economic development purposes only. Any engineering work should instead use TxDOT AADT wherever available. BPS counts are not AADT.

Turn Percentage Per Lane On Duval (Hwy 110/Hwy 135)

- Busiest block: Duval between Front & Georgia, over 11,000 vehicles per day.
- Busiest non-highways: North Georgia & Carolina, about 600 vehicles per day.
- Busiest parking lot driveway: Brookshire's, combined 2,300 vehicles per day.
- Some alleys exceed 200 vehicles per day, especially near popular businesses.
- Duval's traffic radiates out from the CBD due to turns on & off of Georgia.
- All highways (except south SH 110) have an overall outbound flow direction.
- Mornings are more intense than evenings, but only last a third of the time.
- Traffic counts drop to overnight levels between 4:30 AM & midnight.

Peak Times & Major Routes

Time of Day (TOD) Peaks
All Vehicles/Users, Weekdays

Street TOD Peak / Peak Intersection Direction by TOD:
- Morning
- Lunch
- Afternoon
- Evening
- Late Night
- Overnight
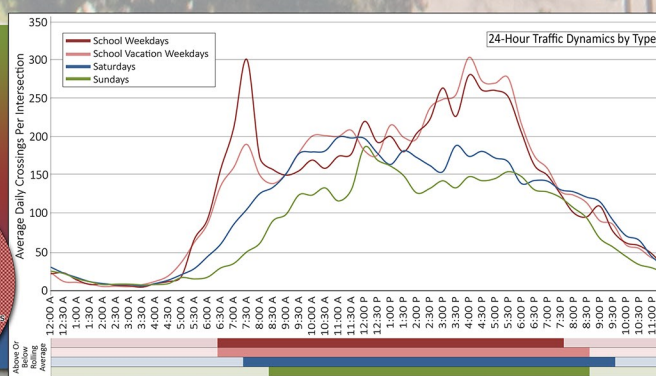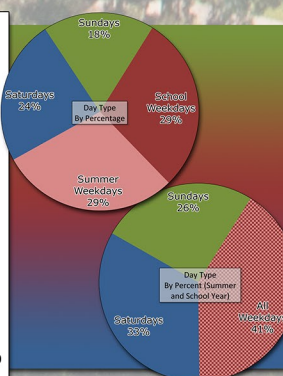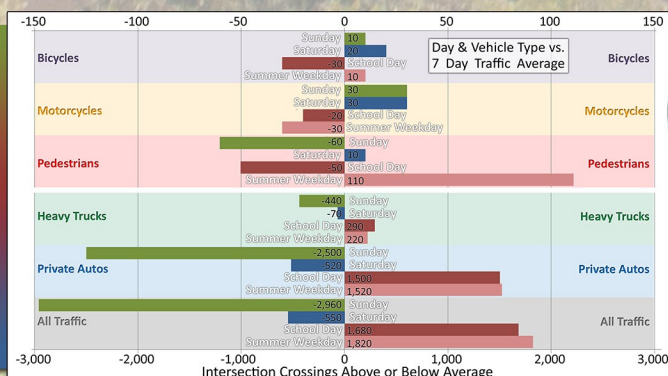
- Nearly 40% of blocks peak in the morning. 30% of blocks peak in afternoon, 20% in early evening.
- The Civic District has its traffic peak in the afternoon.
- CBD/Downtown has its peak in the afternoon.
- The Gateway District has its peak in the evening.
- Restaurant lunches are busy enough to peak on maps, but dinner crowds are too small for that.
- Duval/Ponsard is the primary route through Troup.
- Morning Duval/Ponsard traffic flow: split at CBD
- Lunch Duval/Ponsard traffic flow: westbound
- Afternoon Duval/Ponsard traffic flow: eastbound
- Evening Duval/Ponsard traffic flow: eastbound
- Small highways are mainly inbound in mornings.
- Smaller highways switch to outbound as the day progresses. Georgia is last to flip (after 4:00PM).
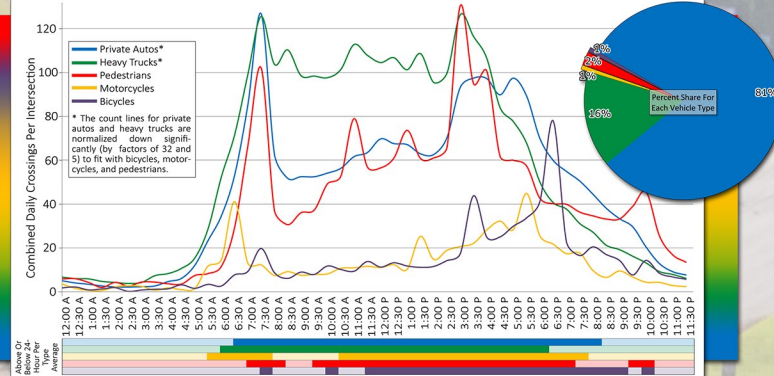- Calvert & Bradford have heavy evening Duval bypass traffic, Calvert does in the mornings too.

Morning Routes | Lunch Routes | Afternoon Routes | Evening Routes

Differences by Day

- There is not a meaningful difference in totals between school & 24-hour traffic counts.
- Busy late-day summer traffic offsets its own slower mornings (compared to 7:30 school times).
- In a hypothetical 3-day week, Weekdays would account for 41% of all Downtown traffic.
- Saturdays lack rushes, but attract 90% of 8 AM to 2 PM Weekday traffic (by getting 1,000 more vehicles than weeknights, lasting longer at night).
- Sundays have less traffic & later morning peaks.
- Pedestrians, bikes, & motorcycles account for more of all traffic on weekends & TISD holidays.
- Trucking is lower on Saturdays (even more so on Sundays), but is still steady during the day.
- 24-hour private auto counts, are nearly identical for school vs. vacation days.
- School Weekdays are the lowest day type for bike traffic counts except in the CBD.

Day & Vehicle Type vs. 7 Day Traffic Average:
Bicycles, Motorcycles, Pedestrians, Heavy Trucks, Private Autos, All Traffic

Intersection Crossings Above or Below Average
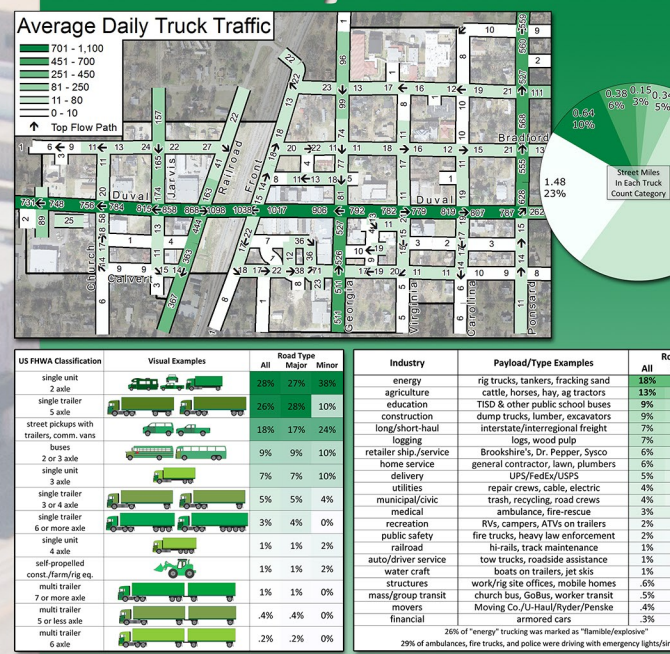
24-Hour Traffic Dynamics by Type

Vehicle Type

- School buses average 50 crossings per CBD intersection on school days.
- Private autos are the top vehicle type, accounting for 81% of all traffic.
- Heavy/commercial trucks are the 2nd most common vehicle type (16%).
- Walking is the 1st driving alternative (2%), more than double bikes (0.7%).
- Each vehicle type has its own rush & time of day dynamics, especially regarding the number or reliance on specific traffic peaks/rush hours.
- Trucking activity starts & ends earlier in the day than with private autos.
- Pedestrians & bikes exceed their rolling 24-hour averages much later into the evening when compared to the other motorized vehicle types.
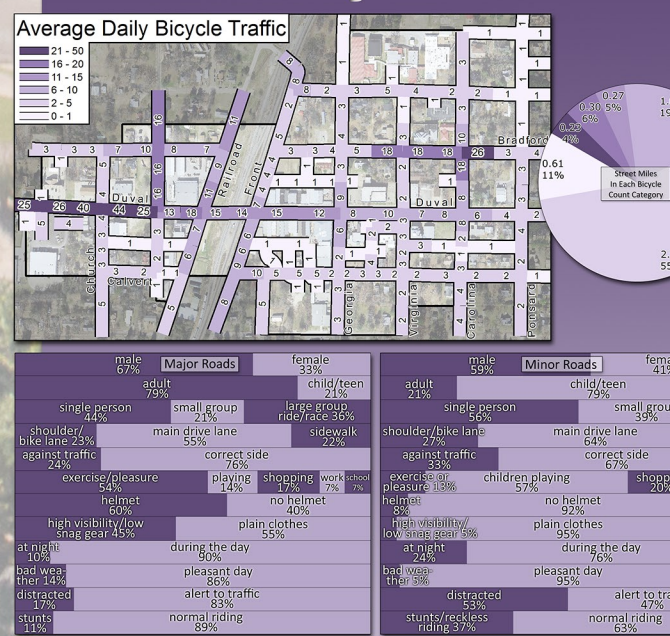
Combined Daily Crossings Per Intersection:
Private Autos, Heavy Trucks, Pedestrians, Motorcycles, Bicycles

Heavy Trucks

Average Daily Truck Traffic
- 1,701 – 1,100
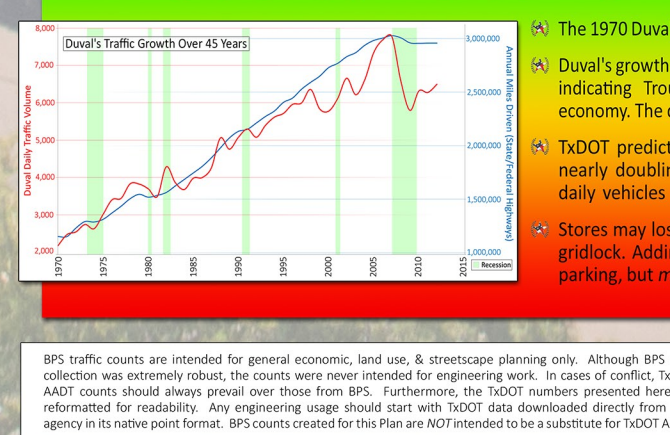- 401 – 700
- 201 – 400
- 81 – 200
- 31 – 80
- Top Five Path

- Single unit 2 axle is the top truck type on main roads, 5 axle semis are 2nd. Pickup trucks towing trailers are in 2nd place on Troup's neighborhood roads.
- Enhanced CBD streetscape & pavement options will be limited by trucking.
- The top 3 truck industries on main roads are energy, ag, & education. Ag is tied with delivery on local for 1st. Home service, construction, City, & edu are 2nd.
- 25% of energy sector trucks carry potentially hazardous cargo through Troup.
- Some pass through truck industries are customers of local retail businesses.
- 1,000 trucks drive through the CBD daily. Troup's highway layout causes trucks to radiate out from the CBD. Levels are consistently high all day.
- Overnight trucking is minimal because Troup lacks freeways or US highways.

Pedestrians

Average Daily Pedestrian Counts
- 101 – 170
- 71 – 100
- 41 – 70
- 21 – 40
- 6 – 20
- 0 – 5

- Counts only include walking along the road, not going from on-street parking directly into stores. CBD counts would be higher otherwise.
- Pedestrian counts hit 100 per block near Troup Elementary & in the CBD.
- The railroad tracks are a barrier, but around 50 people cross daily anyway.
- Walking is frequent near Brookshire's (with uncounted crossings b/w houses).
- The gender split is even for general walking, but joggers are 75% female.
- Adults dominate in the CBD (about 70%), kids increase closer to houses.
- Sidewalks are used where available & convenient, but only when on route.
- Shopping & commutes are the top reasons people walk on busy streets.
- Night/bad weather does not hurt walking rates as much as it does cars.
- Distraction, jaywalking, & streetlight shortcomings are CBD safety concerns.
- Walking has early & late peaks, plus spikes for lunch, school, & evenings. Loft residents were observed walking late in the night & early for work.

Bicycles

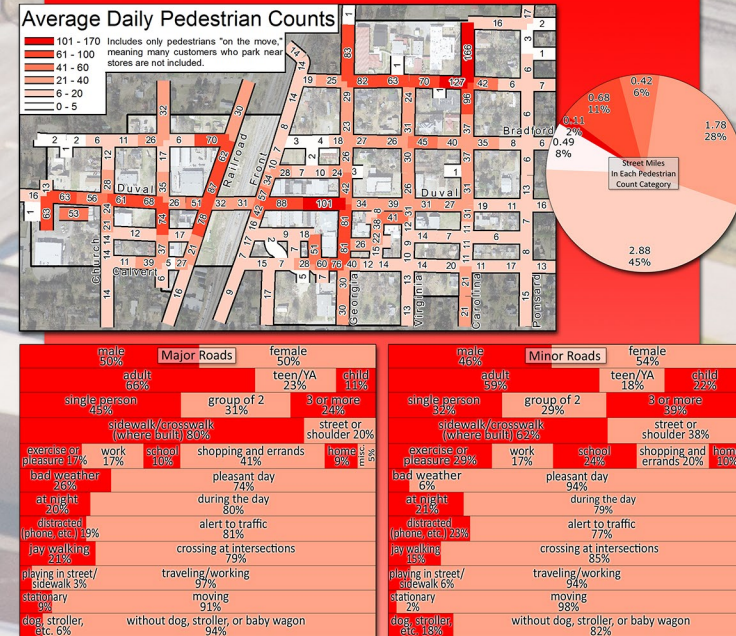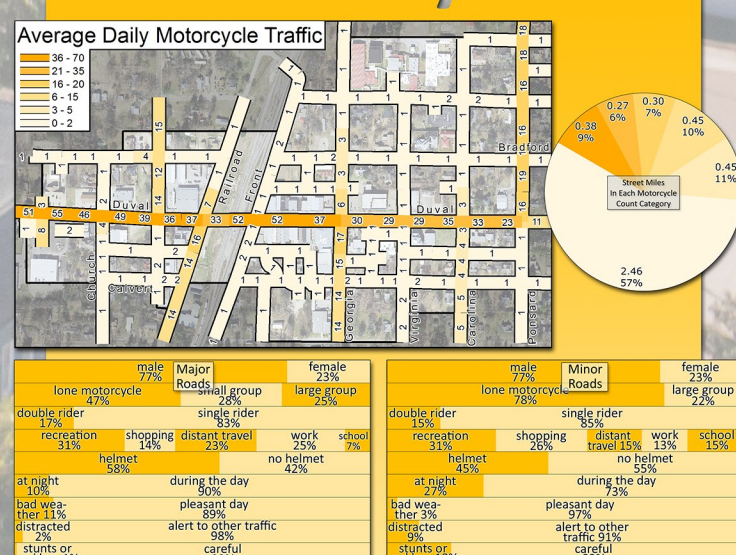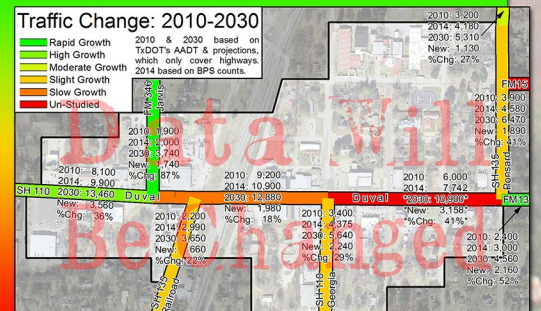## Average Daily Bicycle Traffic

- Bicycles account for only 0.7% of all vehicles; they are the 2nd rarest type.
- The busiest blocks for biking are on Duval; some block reach 45 bikes/day.
- Kids often play ride near home (each counted just 3 times/hour to avoid skews).
- Men outnumber women on bikes. Adults outnumber children 4:1 on main roads, but kids dominate counts 4:1 on neighborhoods & on small roads.
- Pairs & groups of bikes are more common on busy streets than small ones.
- Exercise, enjoyment, & children playing cause 70% of trips. Shopping: 20%.
- Helmet use & ideal bike attire is prevalent for serious riders (60%), safety gear adoption is far too low for teens/kids (their helmet rate is under 5%).
- Bad weather & night reduce major road biking rates, less impact on small ones.
- Reckless biking is frequent in neighborhoods, & occasionally on CBD sidewalks.
- Weeknight & Saturday group rides get 10-30 participants, mostly on Duval.
- Downtown Troup lacks dedicated bike lanes & ubiquitous bicycle parking.

Motorcycles

Average Daily Motorcycle Traffic

- Only 0.6% of all vehicles are motorcycles; they are the rarest motorized type by far.
- The motorcycle gender gap is wide, with men accounting for about 80%.
- Motorcycle riders are overwhelmingly adult; school commuting is rare.
- Half of the motorcycles on major streets are in groups. 20% have a 2nd rider.
- Work commutes, shopping, recreation, & travel attract similar percentages.
- Helmet usage on major roads is just 60%. Rates are much lower for youths.
- Weather/night reduces ridership disproportionately compared to cars.
- Distractions & recklessness are a regular problem only on smaller roads.
- The morning motorcycle peak hits earlier (6:00 AM) than for cars/trucks.
- CBD motorcycles & bikes could park on less space per customer than cars.

Past & Future Traffic

Traffic Change: 2010-2030

Duval's Traffic Growth Over 45 Years

- The 1970 Duval average was 2,000. 7,000 by 2014.
- Duval's growth follows the national highway trend, indicating Troup still has an externally driven economy. The dips correspond with US recessions.
- TxDOT predicts growth in Troup, with FM 346 nearly doubling by 2030. Almost 4,000 more daily vehicles are projected on Duval by 2030.
- Stores may lose business from worsening Duval gridlock. Adding CBD lanes could reduce street parking, but may become the lesser of two evils.

Data Will Be Changed

BPS traffic counts are intended for general economic, land use, & streetscape planning only. Although BPS data collection was extremely robust, the counts were never intended for engineering work. In cases of conflict, TxDOT AADT counts should always prevail over those from BPS. Furthermore, the TxDOT numbers presented here are reformatted for readability. Any engineering usage should start with TxDOT data downloaded directly from that agency in its native point format. BPS counts created for this Plan are NOT intended to be a substitute for TxDOT AADT.

BPS traffic counts were generated using a time-consuming long count. The surveys included 3,604 total count hours (150 24-hour days). Surveys began in 2013, & ran through late 2014. All street & alley intersections were covered, with an average count time of 86 hours for each. Critical intersections such as the one at Duval/Georgia were surveyed for much longer times (over 300 hours, 13 days). Counting surveys included both school & vacation Weekdays, plus Saturdays & Sundays; in good weather & bad.