# Streetscape Study

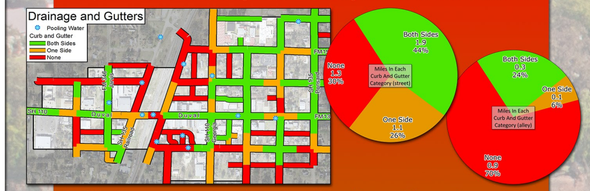
Downtown Troup Master Plan
www.troupplan.com

Prepared By
Butler Planning Services
Small Town Hearts • Big City Capabilities

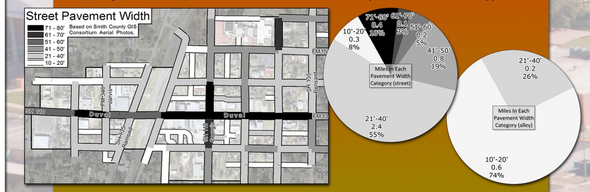
Prepared For
Troup Texas
TCDC

## Streetscape


- Most Downtown streets are asphalt. Alleys gravel, dirt, grass, & concrete almost as much.
- Strategically place brick pavement could help historic Downtown branding & calm
- Balancing pavement cost, service life, & appearance is key because Downtown users range from heavy trucks to shoppers on foot.
- Paving choice for sidewalks is critical too.

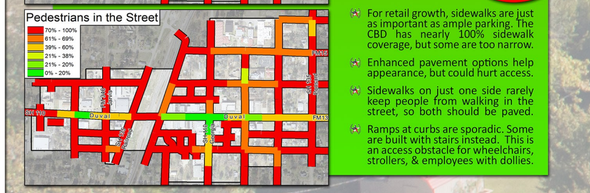



- 50% of Downtown streets have dual curbs (24% for alleys), 26% are curbed on one side.
- The CBD is not in a 100-year flood zone. Storm pooling is rare, mostly on uncurbed streets.
- Duval drains well for typical storms, but this could change if development adds pavement.
- Curbs can extend road pavement lifespan, & often improve a street's visual appearance.




- The widest Downtown Troup streets are 80', usualy because of street parking. Most alleys are narrow, some less than 20'.
- Road & lane size subconsciously affects drivers, as much or more than speed limit signs. Extra width encourages faster driving.

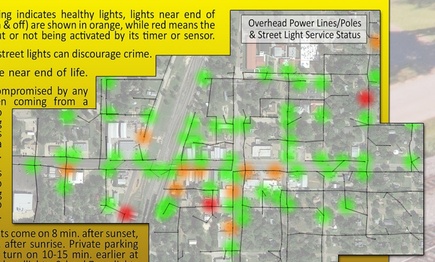

- Widest Downtown right of way (ROW): 100'
- FM 346 (Jarvis) & SH 135 (Railroad) are narrower than some neighborhood roads.
- Excess ROW is economically wasteful. Still, ROW must accommodate future traffic growth & Downtown streetscape upgrades.


- For retail growth, sidewalks are just as important as ample parking. The CBD has nearly 100% sidewalk coverage, but some are too narrow.
- Enhanced pavement options help appearance, but could hurt access.
- Sidewalks on just one side rarely keep people from walking in the street, so both should be paved.
- Ramps at curbs are sporadic. Some are built with stairs instead. This is an access obstacle for wheelchairs, strollers, & employees with dollies.

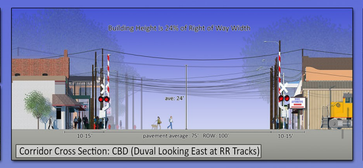
## Overhead Utilities

- Green map shading indicates healthy lights, lights near end of service (cycling on & off) are shown in orange, while red means the light is burned out or not being activated by its timer or sensor.
- Well maintained street lights can discourage crime.
- Several lights are near end of life.
- Night vision is compromised by any illumination when coming from a dark highway, so sporadic lighting is at least as dangerous as a fully unlit road.
- Some of Troup's use sensors to activate during storms & adapt to seasonal shifts.

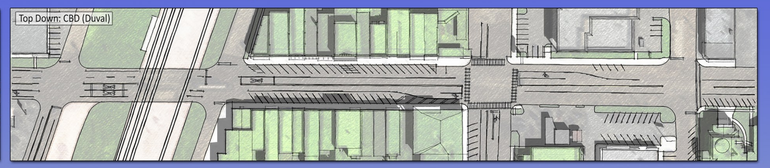



- Troup's street lights come on 8 min. after sunset, & shut off 6 min. after sunrise. Private parking lot lights tend to turn on 10-15 min. earlier at night, so do most headlights. School Zone lights are on from 7:16 to 8:11 AM & 3:00 to 3:45 PM.
- Pedestrian street lights should be built lower, & provide 100% coverage. Some designs mirror historic gas lamps, which helps branding. Those lights can mix with traditional cobra head poles for vehicles.
- The logo on Troup's newest water tower (east of Downtown) is lit from 8:20 to 11:20 PM. This is a strong civic branding tool, but it does not turn on for morning commutes. Those City/Downtown branding benefits must be weighed against bulb replacement costs (shortened by each on/off cycle).
- Coverage is shown on the ray traced rendering below. This analysis will be updated prior to publication.

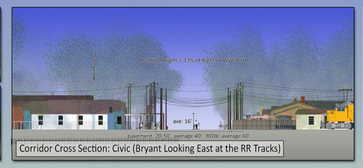

## Street, Lot, & Building Relationships

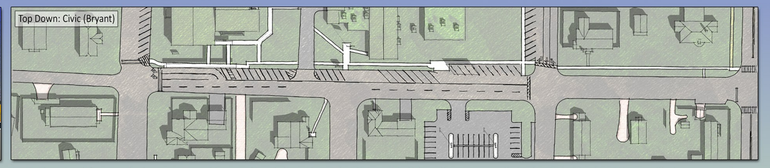

- Complete "Façade Walls" instill feelings of security & protection to pedestrians on busy urban thoroughfares. However, narrow & suddenly encountered gaps foster unease, especially at night.
- Duval has a mostly unbroken façade wall between Front & Georgia, with these buildings demonstrating consistency in scale & height. The next block (to the east) has wider gaps & little consistency.
- Sidewalk awnings offer a fairly complete ceiling to the elements, though variations in height, depth, & design hurt effectiveness & aesthetics. Roof pitch inconsistency is an appearance issue too.
- "Corridor Cross Section" (above center) shows the "urban room." Setback consistency/location & building height to right of way size relationship are both important. Ideal height is 50% of ROW width.



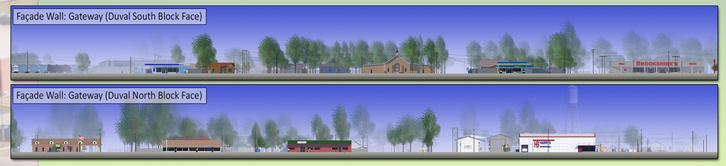

- The top down view renderings show building, lot, & street relationships. Gaps in the urban fabric are any place where the façade wall is broken. Building-wide openings discourage walking & fracture district cohesion.
- These renderings also demonstrate the lack of full-depth awnings south side CBD buildings. Overall coverage is fairly strong for north side structures. The blocks east of Duval/Georgia mostly lack sidewalk awnings though.
- CBD sidewalk widths are outstanding between Front & Georgia, over 10' on average. However, they shrink east of the four-way stop, with several block-length gaps. City Hall sits on one of the most incomplete blocks.
- In this Plan's public opinion survey, Troup's residents tended to favor downtowns that were "walkable" & "user friendly." The design of sidewalks, parking, & awnings contributes heavily to those qualities.

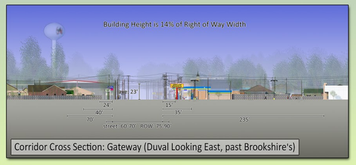




- The Civic District has the widest façade wall variation, due to its intermingled commercial, public, & single-family homes.
- Solid façade walls, such as Troup Elementary, are countered by exposed blocks (parking lots, un-built land, etc.). Façade height varies dramatically, from multi-story public to one floor homes.
- Fences may communicate a "stay out" message, but they offer some consistency in façade setback on purely residential blocks.
- However, if too many single-family homes have front fences, "eyes on the street" visibility will be cut. That will reduce self-policing, neighbor friendships, & positive citizen connections.
- The average Civic District building height is 16'. Commercial/public buildings are generally taller, but the overall district average is low due to single-family homes & suburban style public structures.
- Because of slimmer streets & rights of way, the Civic District building height to ROW width ratio is relatively high (13%) vs. the Gateway.

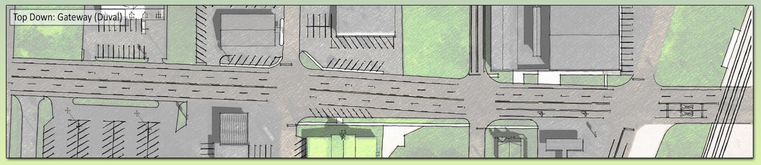



- Both striped & unmarked on-street parking are found throughout the Civic District. Temporary parking in the drive lanes is used near Troup Elementary.
- Civic District street width varies, especially near the CBD. Unless it is for striped on-street parking, excess pavement is wasteful & causes speeding. Narrower streets (or lanes) calm traffic & improve child/resident safety.
- Sidewalks are sporadic in the Civic District. Worse still, they are rarely on both sides of the street. Coverage on each side is strongly recommended based on Traffic Study observations of Troup's pedestrian habits.
- Alley paving & orientation is varied in the Civic District, causing potential for inefficiencies in utility maintenance & the delivery cost of public services.



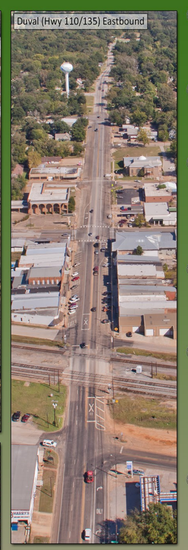




- Low buildings & big façade gaps psychologically discourage walking in the Gateway except for exercising. Few chose to shop on foot. Drive-throughs & curbless lots are also walking & vehicle issues.
- The Gateway's deep "big box" setbacks hurt pedestrian friendliness on Duval by pushing destinations far away from the sidewalk. Shopping center out parcels could at least partially mitigate this.
- The Gateway District could become a transition zone between the pedestrian CBD & the car-oriented suburban blocks to the west.
- Gateway setbacks range from 20'-230' (separation from Duval is widest at Brookshire's). This creates a jumbled streetscape impression for both drivers & pedestrians. Even still, average building height is only slightly lower than in the CBD (21' vs. 24').
- The building height to ROW width ratio is a low 12% in the Gateway.
- Blocks in the Gateway have almost no curb & gutter consistency. Several large sites are 100% open along Duval. Meanwhile, on-street parking is intermixed with highway style (fast) road layouts.
- Gateway sidewalk width, location, & coverage ranges from lacking completely on some blocks, to very strong CBD styles on others.




- The abrupt transition from a four-lane highway (near Brookshire's) to a two-lane main street (in the CBD) could be confusing for first-time Troup visitors. This situation is greatly compounded by the railroad tracks.
- Access management (driveway separation distance, turn consolidation, full curbs, etc.) greatly increase vehicle capacity. Using it in the Gateway will be vital to handle expected new traffic & help Troup's branding.
- The Gateway's vehicular design speed is far faster than the other two districts, more akin to a highway than a main street. This will impact pedestrian accessibility & options available for City/Downtown branding.
- Retail landscaping & softscape elements are most critical in the Gateway because of its large car-centric lots. Currently though, these kinds of enhancements are sparingly provided in most commercial parking lots.

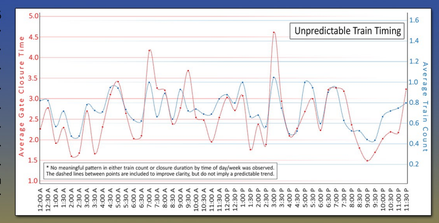
## Corridor Character




- Drivers experience a city as a set of street corridors. Often, the streetscape of each block fades to overall corridor impressions.
- Downtown is crisscrossed by several TxDOT streets, making the Highway Department critical to any development planning.
- The varied land uses along corridors like Duval offer both opportunities & problems. Transition zones between urban (CBD) & suburban (Gateway, Civic) areas are important for branding, safety, & traffic.
- The railroad tracks are another type of corridor, although the City has little direct impact on its design aside from the zoning applied to adjacent lots.
- Some corridors, such as Jarvis, have a quaint character reminiscent of New England & "small town USA." Others, like western Duval, have the hallmarks of East Texas major thoroughfares, & could develop many of the same traffic problems.
- Several corridors have mismatched ROW widths. A few residential streets were platted with excess space, while some TxDOT highways lack the room for projected traffic growth.
- The offset alignment of highways like FM 346 (Jarvis) & SH 135 (Railroad) could eventually lead to the traffic flow headache found at Tyler's Shiloh Road & Troup Highway.
- Landscaping in & out of the right of way should be used more for aesthetic & environmental benefits. Properly selected/located trees can reduce utility bills & radically improve comfort for pedestrians on sidewalks or in parking lots.
- Access management is notably absent on the thoroughfares passing through Downtown. This is a concerning situation in the face of predicted traffic increases & the land locked ROW in the CBD.
- On-street parking is vital in urban settings like the CBD. The design of street facing parking lots is just as critical. Both types of parking could be improved.

- Union Pacific owns the line, TxDOT & the City of Troup are the regulators. 4 tracks cross Duval, 5 cross Front/McKay. 3 crossings are within 0.5 miles of Downtown. 97% of trains travel northbound.
- 10% of gate closures happen without an actual train crossing, mostly from stops south of the street.
- Trains come to a full stop across Duval 2% of the time (halted 6 minutes on ave, 65 minutes max).
- Duval's boom gate is closed 35 times per day (1 closure every 42 minutes | 1.4 closures per hour).
- The average train duration per closure is 2.6 minutes, with the gates down 3.7 minutes per event.
- Train speeds in mph observed on survey days: 28 (average), 45 (fastest), 10 (slowest non-stop).
- Most common rolling stock type: hopper (pulled by 57% of trains). 41% of trains include tankers.
- Unit Trains (only a single cargo type) & dead freight (all empty cars) are both rare through Troup.
- Vehicular accidents recorded in 1976 & 2013, due to driver gate running. Pedestrian strikes by a moving train have happened in 2013 & 2015. An overnight fatality occurred in the latest incident.
- Pedestrians, bikes, strollers, & wheelchairs cross often.
- The Duval gate has most recommended safety features, including lights, bells, signs, & markings on the street.
- Track layout partially limits driver sight lines from Duval.
- Statistically, 16 emergency vehicle runs are expected to cross the tracks daily. There is no viable east/west alternative for first responders during train stoppages. The mobility of local safety agencies during a derailment would be greatly hindered too, possibly delaying action.
- 14 Downtown intersections suffer regular train backup.
- Bypass into neighborhoods is very common when trains cross Duval. On one count day, a combined 460 extra vehicles went through a single neighborhood within 1.5 hours. These examples occurred at non-peak times. Stoppages during rush hours have an even greater impact on residential streets.
- Train noise could hurt hotel & restaurant viability.
- Trains worsen congestion, particularly in the mornings and during rushes. Gates are down 2 hours per day; with approximately 1,810 vehicles blocked during that time.
- Waiting for trains costs a combined 106 work days per day.
- On their own initiative, many survey respondents brought up the concept of building a RR track over/underpass.
- In surveys, the train was commonly given as a potential branding & marketing symbol for Downtown Troup.
- Trains were frequently discussed as both the biggest threat & possible opportunity/symbol for Downtown Troup.
- The RR corridor compressed view shows curves before & after Downtown, limiting some grade separation options.

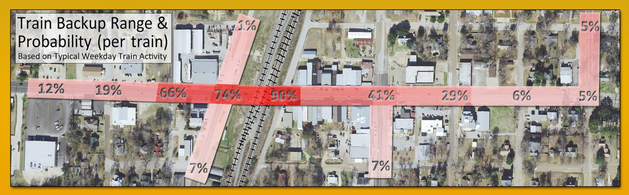



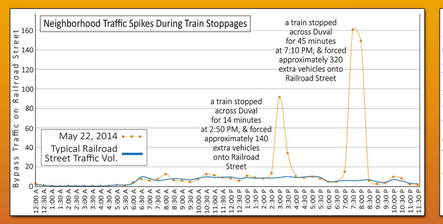


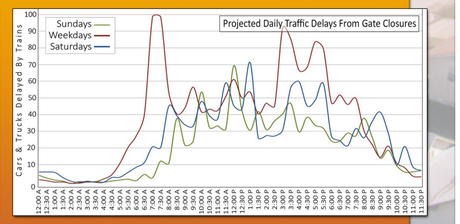
| | Train Counts & Direction | | | Crossing Gates | | Costs & Delays Impacting Duval | | | Train Speed, Acceleration, & Stops | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Trains per Day | Train Duration (minutes) | South-Bound Trains | Down Time per Closure (minutes) | Down Without Crossing | Hours with Duval Traffic Blocked per Day | Cars & Trucks Delayed on Duval per Day | Combined Local Driver Productivity Cost per Day (lost workdays) | Average Speed | Top Speed | Slowest (that did not stop) | Accel-erating Trains | Train Stopping On Duval |
| Sundays | 33 | | | 3.5 | 9.6% (32% of those were crew changes or locals) | 1.6 | 1,052 | 59 | | | | | 1.5% (6.1 min. average) |
| Weekdays | 35 | 2.6 | 2.9% | 3.7 | | 2.0 | 1,810 | 106 | 28 mph | 45 mph | 10 mph | 86% | |
| Saturdays | 30 | | | 3.9 | | 1.9 | 1,319 | 81 | | | | | |

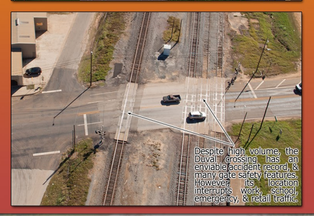
Productivity cost based on an 8 hour work day, 5.1% unemployment, 1 adult per vehicle. Train speeds are estimates only, based on sample of 100 trains. Other stats based on sample of 1096 trains (surveyed from January 2014 through November 2014).

| Rolling Stock Type | Example Cargo | Pulled By | Rolling Stock Type | Example Cargo | Pulled By |
|---|---|---|---|---|---|
| Hopper | coal, fertilizer | 57% | Rolling Highway | loaded 18 wheeler truck trailers | 12% |
| Tanker | oil, gas, chemicals | 41% | Cotton Bin | cotton crops | 6% |
| Boxcar | merchandise | 34% | Stock | livestock, animals | 5% |
| Autorack | new/used automobiles | 28% | Heavy Machinery | construction, drilling | 2% |
| Flatbed | shipping containers, pipes, bulky, wind turbines, lumber | 25% | Passenger | commute/travel | 1% |
| Gondola/Open | raw ore, coal, sturdy bulk items | 21% | Military | humvees, tanks, aircraft | 1% |







# Train Study

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