This project occurs on a 3.0 mile section of SR 483 (Clyde Morris Blvd.) south of Beville Road (SR 400) to north of International Speedway Boulevard (SR 600). Ghyabi is providing project management and design of the reconstruction of this 4-lane rural to 6-lane divided urban roadway, all within a narrow urban corridor. The project involves raising the profile due to high groundwater conditions, new stormwater treatment ponds, a new drainage system, and lighting and signals. A shared use path follows one side of the roadway. Extensive permitting coordination is also involved.
With this project, FDOT District 5 tasked G&A with developing construction plans and documents for the widening and reconstruction of SR 415, from a 2-lane rural roadway to a 4-lane urban roadway. The project limits were from SR 46 on the south to the beginning of the bridge over the St. Johns River at the Volusia County line on the north. The total project length, including an additional 500 feet of pavement marking south of the SR 46 intersection, was 1.07 miles. The project also included the relocation of a 0.36 mile section of Celery Avenue (CR 415).

The PD&E cost estimate for the three SR 415 projects totaled approximately $187.6 million. G&A, along with the other two design firms, successfully employed cost savings techniques to complete these projects ahead of schedule and under budget at $35.4 million. These savings were accomplished by reducing right of way costs, leveraging existing systems, and facilitating enhanced coordination between the three SR 415 design teams and adjacent projects and stakeholders. G&A received a notice to proceed at the time that the adjacent consultant’s project was already at a 60 percent level of completion. Because the G&A stormwater system was accepting runoff from the bridge into our pond system, the SJRWMD would not issue permits for the other two S.R. 415 projects until we had staff approval for our design concepts. Our team accelerated and fast-tracked the design and permitting so that there was no delay for the other projects and we ultimately submitted our 90 percent plans at the same time as the SR 415 project to the north.
The Ghyabi Team is preparing the roadway and drainage plans for 1.37 miles of SR 600 6-laning from Portage Street to Vine Street (US 192) in the City of Kissimmee, Florida. The existing 4-lane urban roadway will be widened toward the median for the 6-lane improvements. The majority of the project will not require R/W to construct these improvements, with the exception of the Vine Street intersection. That intersection requires a dual left turn lane, which will require widening and additional R/W. The 50-year old drainage system was analyzed and we determined a majority of it could be salvaged. We also proposed construction of additional piping in the median area to minimize impacts to the existing roadway and R/W, while still providing the drainage needs. Several outfall systems were also analyzed for capacity, including the expansion of two existing stormwater facilities for treatment and attenuation. The ultimate outfall was to the West City Canal, a regulated floodway. Analysis was required on this canal to assure the permitting agencies that there was no change in the floodwaters (NO-Rise). The project also includes roadway plans, drainage plans, signing and marking, signalization, traffic control and permitting.
This project required that the alignment study, survey, design and permitting be completed within 15 months for this new roadway connecting Airport Center Drive at US 17 to New Berlin Road on Jacksonville’s Northside. The alignment was shifted to avoid major wetland impacts, JEA transmission poles, subdivisions, wetland conservation areas and businesses. A Preliminary Engineering Report was prepared for the preferred alignment including environmental documentation. An intensive public involvement program was also conducted. The project quickly moved into survey and design to meet schedule commitments. The project required roadway plans, drainage design and analysis (4 ponds), traffic control plans, signing and pavement markings, signalization, lighting, R/W mapping, noise study, utility coordination and coordination with adjacent projects. G&A was also responsible for JEA’s water main design as well as underground electrical design.
The Ghyabi Team is preparing construction plans, specifications and cost estimates for the reconstruction of a portion of SR 48 for FDOT District 5. This project begins just east of I-75 and continues for 1.80 miles through the City of Bushnell in Sumter County.

The existing 2-lane rural roadway will be reconstructed as a 5-lane urban roadway with concrete curbs and gutters, bicycle lanes and sidewalks on both sides.

Stormwater runoff will be collected and treated in three basins, each with a new stormwater management pond within each basin. Floodplain compensation areas will be coordinated with Southwest Florida Water Management District’s new floodplain requirements.

This project will involve traffic signal modifications of CR 609, West Street and CR 475 (Main Street).
This project consists of the study and design of the SR 9A/Heckscher Drive (SR 105) Interchange Improvements in the City of Jacksonville, Florida. Located on SR 9A (I-295 future) approximately one mile north of the Dames Point Bridge over the St. Johns River, the need for the existing interchange improvements is required due to a significant increase in truck traffic due to Mitsui Corporation’s expansion at the Jacksonville Port Facility.

Ghyabi utilized microsimulation software – SYNCHRO and CORSIM – to properly determine the required improvements. Our recommendations consisted of dual left and right turns for the southbound off ramp, dual left turn lanes for the eastbound and westbound Heckscher Drive, dual left turn lanes for New Berlin Road south and the extension of the southbound off ramp to a dual parallel ramp. Adding complexity to the design at this location is New Berlin Road south, which is located within several hundred feet of the western ramps of SR 9A and is the entrance to the Mitsui Corporation operation at the port.

The design included widening the southbound off ramp bridge over a CSX rail line, widening Heckscher Drive under the SR 9A overpass, design of crash barrier walls for the existing bridge over the CSX rail line and stormwater treatment facilities.
The I-4/I-95 interchange project involved two of the ramp connections between these two interstate highways. I-4 terminates at I-95, but continues on as a state route into Daytona Beach. The two ramps that were affected were the EB I-4 to NB I-95, and the SB I-95 to WB I-4 movements. Both ramps were experiencing higher crash histories that would be expected, primarily due to substandard cross-slopes and pavement surface deterioration. Both ramps also were configured as 2-lane ramps, with the EB I-4 to NB I-95 ramp introducing the 2nd lane at the beginning of the ramp, and dropping the 2nd lane just prior to the ramp merging with I-95, effectively making the 2nd lane a passing lane. This situation, combined with a sharp curve and substandard cross-slopes, contributed to a very high crash rate. G&A suggested to FDOT that this ramp be permanently reduced to one lane to eliminate the high speed passing issue. FDOT agreed and this solution has created a much safer ramp with the crash rate being significantly reduced. Another G&A innovation was to require nighttime construction and ramp closures, with detours. This method allowed the construction to proceed at a faster pace thus reducing the construction exposure time that motorists had to experience, and created a much safer work environment for the construction personnel. The project involved milling and resurfacing with cross-slope correction, new guardrail, traffic control plans that included detours, utility coordination, and signing and marking.
Ghyabi & Associates designed an ‘oval about’ in 2008 at the main entrance to Daytona State College to facilitate bus traffic from busy International Speedway Boulevard to Bergengren Hall (shown as Building 110 below). Parking lot improvements were also included in this project.
This districtwide contract addressed minor design projects that required: roadway plans, design analysis, drainage analysis, roadway and drainage plans, traffic control plans, utilities and railroads, signing and pavement marking plans, signalization plans, lighting plans, design survey and right of way surveys. Typical projects included milling and resurfacing, roadway widening, intersection improvements, drainage retrofits and improvements and stormwater permitting.

- SR 5 (US1) Left Turn-Lane at JFK Dr
- SR 5 (US1) at I-95 Left-Turn Lane (St. Johns)
- SR 111 (Tallulah Ave) at Pearl St
- SR 55 (US 221) at CR 14
- SR 15 (US 17) at Stiles Ave
- SR 10 (US 90) St. Johns Bluff to Monument Rd
- SR 224 (Kinglsey Ave) at Plainfield Ave
- SR 21 (Blanding Blvd) at Collins Rd
- SR 24 (Waldo Road) at NE 8th Ave
- SR 247 (Branford Highway) Columbia County
- SR 25 (US 441) 10 Signals (Gainesville)
- US 441 Survey
- SR 24 @ SR 121 Signal (Gainesville)
- SR 10 (Atlantic Blvd) Interconnect (Jax)
- SR 5 (US1 - Phillips Hwy) Interconnect (Jax)
- US 17 (Roosevelt Blvd) Turn Lane (Jax)
- SR 10 (Atlantic Blvd) Extra Services
- SR 104 (Dunn Ave) at US 1
- US 17 (Roosevelt Blvd) Interconnect TWO 25
FDOT District 5 contracted with G&A to design intersection improvements at SR 520 and Cox Road in Brevard County.

The original design effort was an intersection safety improvement that reduced median openings and extended turn lane storage to realign the intersection. At approximately 60 percent design plans, coordination and public involvement with Brevard County staff and residents indicated the need for a Feasibility Study for the additional realignment of Cox Road. G&A completed this study in ten days and revised the scope and design for the realigned intersection. The revised project required a stormwater pond and expedited ERP permitting through the SJRWMD but G&A maintained the original project schedule.

Elements of the project included a new mast arm signalized intersection, realignment of two side streets, major drainage improvements including double box culvert extensions, signing and pavement marking, extensive utility coordination, ITS design, traffic control and public involvement. Extensive utility coordination was required due to narrow rights of way at Cox Road and numerous ditches. This project had to be designed and coordinated with an adjacent roadway project at the intersection of SR 520 and Townsend Road that was associated with the construction of a Sam’s Club warehouse store.
This project involves Transit Shelter and Roadway improvements along Soutel Drive between Sibbald Road and Archery Avenue, located in the northwest section of Jacksonville in Duval County. The purpose of the project is to enhance the JTA’s transit service operations and roadway operations within this section of Duval County.

Currently, the JTA operates three transit routes which have transit stops within this project’s location. Due to the improvements currently under construction by the City of Jacksonville (Bob Hayes Park and future Community Center), as well as the new Shands Medical Clinic (located within the Shops at Sherwood), it was determined that the JTA will modify their current transit operation and transit stops to better serve these associated community improvements. The proposed improvements include the following:

- A new Transit Facility located on existing private property: Shops of Sherwood
- A new public parking lot to provide access to the southside of Boobie Clark Park
- A new public road to improve transit circulation from Soutel Drive (opposite drive to Bob Hayes Park) south to Sibbald Road (opposite Linda Drive)
- A stormwater treatment pond to accommodate the associated improvements as well as future improvements in the northwest quadrant of the proposed intersection at Sibbald Road and Linda Lane

Most of these improvements will be accomplished on lands currently owned by the City of Jacksonville and a portion of private lands (Shops of Sherwood).
G&A performed the traffic analysis and PD&E study for the Clark Road Access Improvement project on the north side of the City of Jacksonville. The intent was to provide improved access from I-95 to Clark Road at Interstate Center Drive in order to provide economic relief to an area that has not seen significant growth.

The original intent was to improve the partial interchange of Clark Road with I-95. The existing Clark Road interchange with I-95 only allowed for southbound entry to I-95. The Broward Road full interchange with I-95 was located only 1500 feet south of the Clark Road interchange and therefore improvements to the existing interchange and/or a collector distributor system were determined to not be feasible.

The traffic technical memorandum analyzed several alternatives to provide better access to the area. The recommended alternative was to construct a roundabout on Broward Road at the extension of Interstate Center Drive. A second roundabout was proposed at the intersection of Broward Road and Clark Road. A Final Engineering report was prepared and included alternative analysis, matrix evaluation and a Pond Siting Report. Several public meetings were also held and included a continual audio/video presentation.
Ghyabi & Associates designed the I-95 Pineda Interchange, a 1.5 mile section that is south of Wickham Road in Brevard County, Florida. The design was based upon the diamond configuration located in the PD&E and we provided an option for the design of a trumpet interchange. For the diamond interchange, the superstructure was designed as a 4-lane divided highway with sidewalks on both sides and a bridge over a multi-use trail was included. Proposed water retention areas were relocated within the interchange limits.

Elements of work included roadways, structures, intersection, interchange, geotechnical activities, design surveys, drainage, signing and pavement markings, signalization, utility relocation, maintenance of traffic, cost estimates, environmental permits, quantity computation books and all necessary incidental items for a complete project.

Refinements in the ramp design were made to avoid impacting a cell tower and a billboard. Ramps B & C included MSE Wall Systems and both single and dual left and right turn lanes. Coordination occurred with the adjoining Pineda Causeway Extension project and the I-95 Widening Project.

The project included extensive public involvement and we were able to show concerned citizens a 3-D computer simulation model what the improvements would look like from any location along the project.