



SUNCOAST inspiration

The 68km stretch of new-alignment highway which opened in 2001 north of the Tampa-St Petersburg metro area of Florida's west coast is inspiring the whole of the state's ambitious electronic-toll campaign. By any standard, it is a motorist's dream.

Running north-south through mostly rural surroundings known to locals as 'the Nature Coast', the Suncoast Parkway (Toll Road 589) occupies a 121m-wide right of way. Easily accommodating a pair of two-lane roadways, its substantial pathway also provides sufficient space for a buffered recreation trail.

This accompanies the entire length and incorporates viewing and interpretative areas. Environmental offsets related to the highway's construction have also helped to create an 8100ha nature reserve at the southern end.

A theme of environmental sensitivity has underlain all phases of the highway's design. Examples range from careful stewardship of the surrounding landscape to the coordinated use light-brown cement, brown monotubing elements, black vinyl fencing, and brown, corroded-steel guardrails throughout the highway's minimalist superstructures.

Driving on the Suncoast Parkway is designed to evoke an unusual sense of intimacy with the natural environment. Already winning industry honours and

awards, it was built by the Florida Department of Transportation (FDOT), in part to demonstrate that new toll-highways can respond to continuing population growth while acknowledging environmental concerns.

FLORIDA'S NEW SUNCOAST PARKWAY BOASTS THE STATE'S FIRST ELECTRONIC, EXPRESS-LANE TOLL INSTALLATION AS WELL AS ENVIRONMENTAL FEATURES, AS EMILIO SUAREZ AND TOM KNUCKEY EXPLAIN

The project also has provided an occasion for the expansion of FDOT's very successful SunPass electronic fee collection (EFC) programme. In deploying express-lane installations for the first time, it gives motorists the opportunity to drive its entire length, pay three tolls and - all the while - maintain posted speed limits.

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▼ LIFE WITH SUNPASS

Rapid expansion based on consumer appeal is at the heart of Florida's Turnpike current EFC strategy. A recently announced initiative known as the SunPass Challenge supports efforts to double the number of SunPass-only lanes throughout the state to 200 and increase user rates from 40% to 50% by December 2004.

The Challenge's long-term target is 75% participation by 2008. To help achieve these goals, Florida's Turnpike became, in summer 2003, the first US government agency to begin selling transponders at retail outlets (including more than 1,100 Eckerd drug stores and Publix supermarkets).

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Florida's Turnpike is known as the 'Less Stressway'



The Turnpike Enterprise plans to bring the number of SunPass-only lanes to 200 by 2004, an increase of 103 lanes over those available in 2002

thoroughfare and simply bypass plazas where cash tolls are collected.

This has created two main advantages on a highway with a high degree of holiday traffic: ■ An undiverted path for occasional users; and ■ A central four-lane plaza that can be reconfigured to adjust to heavy flows in, either direction.

It has also resulted in a more compact plaza footprint, with associated administrative efficiencies.

▼ TECHNOLOGY IN ACTION

The TransCore-built system operates on a 'smart' time-division multiplexing (TDM) protocol that provides for overlapped radio frequency zones, completing each read/write transaction in approximately 21 milliseconds. The system design relies on an Idris in-pavement loop detection system for precise determination of vehicle presence, speed, axle count and other relevant information while it is in the read zone, while meeting a maximum automatic vehicle identification (AVI) speed requirement of 161km/h.

Each SunPass installation consists of a 30.5m monotube span bridging two lanes of traffic. Three sets of radio-frequency antennae sit atop this arch, each with transmitter and receiver units for communicating with in-vehicle transponders. One set is dedicated to each lane and one reserved as a back-up.

Idris technology is owned by Diamond Consulting Services, of which Peek is a licensee. The system was initially extensively tested at Anclote, one of three plazas on the Parkway, and the other two - at Springhill and Oak Hammock - came on stream in February 2003. Both systems are connected to a roadside controller.

Vehicles without transponders trigger overhead-mounted closed-circuit video cameras that record license plates. (This part of the system has also been designed accurately to identify vehicles traveling at speeds of up to 161 km/h).

Two particular aspects of the Suncoast Parkway installation demonstrate its emphasis on customer expectations. First, as with all

Sunpass facilities, the TransCore-manufactured transponders signal successful collection of a toll by sounding an audible tone and flashing an LED light. Second, each installation includes a secondary roadside controller unit, providing potential back-up for revenue collection while eliminating unnecessary lane closures due to routine maintenance or peak-period repairs.



SunPass uses TransCore-manufactured transponders that emit an audible tone and flashing LED light to indicate that the toll has been successfully collected

With the opening of the Suncoast express lanes, EFC usage has hit the SunPass programme's end 2004 target a year early. According to Clements, three highway projects currently under way will include SunPass express lanes. Every available opportunity, including the construction of express-only on-ramps, is being taken to speed deployment. With Florida's population growth showing no signs of slowing down, express lanes will become the preferred toll lane of the future.

The Suncoast Parkway represents a kind of ideal for the state's highway builders, an environmentally

considerate roadway complete with wildlife crossings, a dedicated greenway, and gently landscaped natural setting. It also represents an ideal for toll collection in the state that will continue to inspire planners and designers in coming



Florida's Turnpike Enterprise is the first US toll agency to sell transponders via mass retail in drug and grocery stores, increasing sales by over 50%

▼ As director of Toll Operations for Florida's Turnpike Enterprise, the toll-collection arm of the Florida Department of Transportation, Evelio Suarez also serves as director of the state's SunPass programme. Tom Knuckey PE is program manager for the Toll Services Group of PBS&J, a multi-service engineering and program-management company serving as in-house consultant to Florida's Turnpike since 1988.

an feet; The dime under your seat; All the coins in your car; Can stay where they are").

Messages toutLife in the SunPass Lane' and promote EFC highways as The Less Stressway' - a phrase first used on the Suncoast Parkway. Combined, these efforts have been highly successful: sales of transponders since summer 2003 have skyrocketed by 50% and beyond; while November 2003 marked the sale of the one-millionth transponder.

▼ CUSTOMER SATISFACTION

The three express-toll installations already in place have served as a kind of living model for FDOT's vision of the state's toll-collection future. We definitely see the SunCoast Parkway as the forerunner," says Nancy Clements, Florida's Turnpike director of Planning and Production.

"We believe that, 20 years from now, toll plazas will be obsolete. In our expectation of an open-road tolling future, the opportunity for a motorist to drive on express-lane facilities will be seamless, from one roadway to the next."

But it is not likely that all open-road tollways in Florida's future will thread express traffic around conventional toll plazas as the Suncoast Parkway does. Its ample right-of-way allows express-lane customers to separate from traffic on the main

www.dot.state.fl.us

www1.myflorida.com/hurnpikepio

www.transcore.com

www.idris-technology.com

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