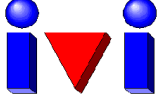




**Location:** Dallas, Texas

**Client:** North Texas Tollway Authority (NTTA) 

**Idris® Technology Partner (ITP):** Information Methods Inc.

**Application:** AT600 Tolling – combination of express, manual & ACM lanes

**Achievement:** 1<sup>st</sup> Multi Lane Installation

**Background:** The project involved two major toll highways, the Dallas North Tollway (DNT) and the President George Bush Turnpike (PGBT), which includes the Addison Airport Toll Tunnel and the Mountain Creek Lake Bridge.

Due to projected traffic forecasts, NTTA knew that they had a requirement for a 3 lane with no divider expressway, they needed a multi-lane solution capable of operating in an open road environment (ORT). The technology solutions available were side fire, overhead laser profiling, or treadle based technologies. However, these systems were known to have experienced vehicle misclassification due to separation issues, obscuration problems, mechanical failure and high maintenance costs. This left the Idris solution. NTTA was aware, through HNTB, that Idris was successfully being piloted by DeLDoT at Biddles Corner, as a multi express lane solution. So the decision to use the proven Idris Technology was taken.

**ITP Detail:** Information Methods Inc (IMI), is an Idris Certified Support Company (ICSC) and has been working with NTTA since 1998. They were brought on board as an independent contractor to work at the lane and plaza integration level. IMI designed and developed the Lane Controller and Facility Server components of NTTA's RITE electronic toll collection system consisting of more than 200 lanes. The Lane Controller is Unix-based implementation and the Facility Server, designed to support daily toll collection operations, captures real-time events and lane transactions.

**Project Detail:** In 1999 the first Idris loops were installed and by early 2000 the Idris technology was adopted as NTTA's standard Automatic Vehicle Classification (AVC) system and was installed on the balance of the 47 mile highway.

NTTA's strategic planning shone through in their deployment of Idris. Unlike many early tolling projects, NTTA didn't have the time, funds or resources for lengthy trials. A calculated decision was made not to carry out months of controlled testing. Idris was tested in situ, installed into the express lanes, tested in a live traffic situation; the results proved the system worked. The kinks were ironed out and full deployment commenced.

**Challenges:** The road for NTTA wasn't always smooth. PGBT was all new construction but DNT was a retrofit of existing lanes raising issues of tired pavements (road) and existing infrastructure. Other issues in the early days involved hardware problems, all of which had to be resolved. But as the evolutionary system matured it became more stable and resulted in IMI & NTTA being a self-sufficient team capable of field

Chestnut Farm, Dinton, Aylesbury, Bucks. HP17 8UG. Tel: 01296 747667 Fax: 01296 747557

Email: [teri@diamond.demon.co.uk](mailto:teri@diamond.demon.co.uk) Web Site: [www.idris-technology.com](http://www.idris-technology.com)

Diamond Consulting Services Ltd. is registered in England No 2609993. Reg Office: Manor Courtyard, Aston Sandford, Bucks. HP17 8JB



repairs, maintenance and support of their own lanes.

The table below shows:- Sample Accuracy Results for the Express lanes at NTTA

<i>Lane Type</i>	<i>Function</i>	<i>Count</i>	<i>Errors</i>	<i>Accuracy</i>
Lane 7 Express ETC	Tag data processing	1669	0	100.00%
	Vehicle detection	1931	0	100.00%
	Vehicle classification	1931	6	99.7%

## Outcome

NTTA has integrated the Idris® loop technology into their ETC solution and is enjoying highly accurate, dependable, low maintenance lane operations for both the express and mixed lane environments. Traffic levels over the years has increased. NTTA, at peak travel times, is likely to see 1 vehicle per second on their express lanes.

At present NTTA use a boxed Idris product. This is shortly due to be upgraded to a fully integrated system. Scott Escott of IMI said ‘We are looking forward to upgrading the system. Currently we use an early software version of the Idris algorithm in the external controller box. The integration upgrade will incorporate the latest version of the algorithm making future deployment more cost effective and reduces hardware and maintenance costs.’

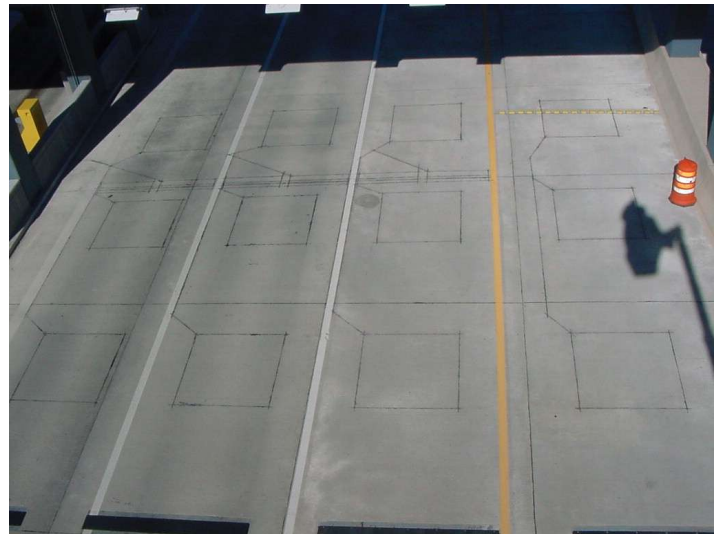


Illustration 1 Express lane Loop Configuration

## Conclusion

NTTA is a good example of how the Idris technology may be deployed into any lane environment, manual, ETC or ORT, whether as an integrated system or as a boxed product. While there is no perfect technology, Idris does meet accuracy requirements in both count and classification. It is consistent in its operation and at the same time it is a technology that has not stood still over time. The team behind the development of Idris constantly strive to improve its capabilities.

Idris® is a registered trade mark of Diamond Consulting Services Ltd.

The Idris Technology is protected by one or more of the following patents: EP0879457, USA 6345228, 6337640 and 6483443. Patent Applications Pending in other Countries

Chestnut Farm, Dinton, Aylesbury, Bucks. HP17 8UG. Tel: 01296 747667 Fax: 01296 747557

Email: [teri@diamond.demon.co.uk](mailto:teri@diamond.demon.co.uk) Web Site: [www.idris-technology.com](http://www.idris-technology.com)

Diamond Consulting Services Ltd. is registered in England No 2609993. Reg Office: Manor Courtyard, Aston Sandford, Bucks. HP17 8JB