

## WHO NEEDS IDAS?

State and local agencies that have a say in transportation improvement decisions will find IDAS to be a valuable asset; particularly, if they are looking at the feasibility of ITS deployments. IDAS can be readily employed by planners and others who have a good understanding of both planning terminology and the travel demand forecasting process.

## HOW CAN YOU OBTAIN IDAS?

IDAS runs on Windows NT and Windows 95 and can be purchased through the McTrans Center for Microcomputers in Transportation at the University of Florida.

### **McTrans (352) 392-0378**

*Call for information, technical assistance)*

### **Voice Messages: (800) 226-1013**

*(Leave a message anytime for a return call)*

### **McFAX: (352) 392-3224**

*(Fax orders, requests or other correspondence)*

### **Email: [mctrans@ce.ufl.edu](mailto:mctrans@ce.ufl.edu)**

*(Access through the Internet)*

### **Web Site: <http://mctrans.ce.ufl.edu>**

McTrans provides technical support for IDAS at no charge to registered users. Individual, group and agency licenses are available. A comprehensive user manual is shipped with the software.

## WHAT ABOUT TRAINING?

FHWA offers a 2-day training course through the National Highway Institute that provides comprehensive instruction on how to run IDAS, enter data and interpret results. Training can be requested through your local FHWA Division Office or by touching base with one of the contacts listed below.

## NEED MORE INFORMATION?

You can visit the IDAS web site by going to the [www.its.dot.gov](http://www.its.dot.gov) and searching for the link to the IDAS site. Or you can contact one of the IDAS team members below:



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# IDAS

ITS DEPLOYMENT  
ANALYSIS SYSTEM

*Tool for  
Integrating  
ITS into the  
Planning  
Process*



U.S. Department of Transportation  
Federal Highway Administration

## WHAT IS IDAS?

IDAS, which stands for the ITS Deployment Analysis System, is software developed by the Federal Highway Administration that can be used to perform sketch planning analyses for ITS (Intelligent Transportation System) deployments. Planners and others can use IDAS to calculate relative costs and benefits of ITS investments - which are either alternatives to or enhancements of traditional highway and transit infrastructure investments. IDAS can currently predict relative costs and benefits for more than 60 types of ITS investments.

## WHAT DOES IDAS DO?

IDAS quantifies the impacts of ITS infrastructure improvements throughout a transportation network. It focuses on how an ITS project or projects effect:

- the frequency and magnitude of recurring and non-recurring congestion
- travel time and throughput on all the links and nodes in the analysis area
- public safety
- environmental factors such as emissions and noise
- energy consumption and overall vehicle operating costs
- agency efficiency and system reliability

**IDAS facilitates the programming of ITS projects into State and local improvement programs**

**Travel Time and Speed Improvements notes from the field**

**Signal Preemption**  
 Oakland/Berkeley - Reduced delay for buses by 14% and average speed by 3.4% using passive priority strategies to favor transit, with small benefits to rest of traffic stream (1% increase in delay while number of stops decreased by 2%).  
 from Control Strategies for Transit Priority, 1998 - Alexander Shabo PATH

**Transit Vehicle**  
 Simulation - Timing plans can reduce travel times to transit vehicles by 5 to 8% with bus volume of 50 or higher.  
 from Control Strategies for Transit Priority, 1998 - Alexander Shabo PATH

**Dakland/Berkeley** - Reduced delay by up to 6 seconds/intersection/bus on a major arterial with 21 signalized intersections.  
 from Control Strategies for Transit Priority, 1998 - Alexander Shabo PATH

**Washington D.C.** - Travel times of transit vehicles reduced by about 6 % when tested on 114 intersections with 300 instrumented buses, but total traffic performance.  
 from Control Strategies for Transit Priority, 1998 - Alexander Shabo PATH

**Benefit/Cost Summary**  
 Project: Metro ITS Plan  
 Benefits are reported in 1995 dollars

Annual Benefits	Weight	Alternative 1 Transit AVL
Change in User Mobility	1.00	\$ 5,896,007.97
Change in User Travel Time	1.00	\$ 0.00
In-Vehicle Travel Time	0.00	\$ 0.00
Out-of-Vehicle Travel Time	0.00	\$ 0.00
Travel Time Reliability	1.00	\$ 2,851.33
Change in Costs Paid by Users	1.00	\$ 0.00
Fuel Costs	1.00	\$ 16,534.59
Non-fuel Operating Costs	1.00	\$ 57,550.71
Accident Costs (Internal Only)	1.00	\$ 65,514.17
Change in External Costs	1.00	\$ 0.00
Accident Costs (External Only)	1.00	\$ 11,561.10
Emissions	1.00	\$ 8,993.07
Hydro Carbons	1.00	\$ 20,993.28
NOx	1.00	\$ 151,078.49
CO	1.00	\$ 0.00
PM10	1.00	\$ 0.00
CO2	0.00	\$ 0.00
Global Warming	0.00	\$ 0.00
Noise	1.00	\$ 23,598.85
Other Mileage-Based External Costs	1.00	\$ 0.00
Other Trip-Based External Costs	1.00	\$ 0.00

**ITS Option Selection**  
 Available ITS Options:  
 Alternative 1 Transit AVL

**Volume Delay Curve Selection**

Freeway	Cuma Type: freeway	V/C Ratio	Urban Speed Factor	Suburban, Rural Speed Factor
Freeway		0.00	1.0000	1.0000
Expressway		0.50	1.0000	0.9994
Arterial		0.75	0.9874	0.9841
Arterial		0.85	0.9574	0.9550
Not Used		0.95	0.9009	0.9026
Not Used		1.00	0.8157	0.8613
Ramp		1.05	0.7309	0.8078

**IDAS provides a database of representative costs and benefits for a wide variety of ITS actions**

## BENEFIT-COST FEATURES

In order to realistically capture benefits and costs, IDAS predicts:

- traveler responses to ITS alternatives including route diversion, mode shift, temporal diversion, and induced/foregone demand
- changes in various categories of travel including trip patterns, trip purposes, geographic corridors, and facility types
- lifecycle costs including capital and O&M costs for the public and private sectors on a year-by-year basis

## OTHER FEATURES

Practitioners will find a number of additional features that enhance ITS planning. For instance, IDAS:

- works with the output of existing transportation planning models
- develops inventories of ITS equipment needed for proposed deployments and identifies cost sharing opportunities
- supports sensitivity and risk analysis
- evaluates alterations in the staging of improvements or changes to the geographic scope
- identifies implementation timeframe and resource requirements
- provides documentation for transition into design and implementation