

**AASHTO Technology Implementation Group  
Nomination of Technology Ready for Implementation  
2005 NOMINATIONS DUE BY FRIDAY, SEPTEMBER 9, 2005**

<b>Sponsoring DOT</b>	1. Sponsoring DOT (State): Utah			
<b>Primary Technical Contact</b>	2. Name: Doug Anderson			
	Organization: Utah Department of Transportation			
	Address: 4501 South 2700 West			
	City: Salt Lake City	State: UT	Zip Code: 84114-8410	
	E-mail: dianderson@utah.gov	Phone: (801) 965-4377	Fax: (801) 965-4564	
<b>Technology Description</b>	3. Name of Technology: <b>Crash Data Delivery System (UDOT Data Almanac)</b>			
	4. Briefly describe the technology. The system is web-delivered, very user-friendly, and allows decision-makers to query crash data in a number of ways. GIS capabilities allow posting crash data to a map or data can be retrieved using a map function. Searches can include fixed segment, floating segment, and cluster analysis on highway corridors. Charts can easily be created to aid analysis. Data filter allow for any data group to be queried independently. An intersection tool can download crashes at intersection and points of interest. Special reports are available for maintenance inspection needs, contributing circumstances, and other applications. The web site also contains pavement condition data and AADTs to enhance safety studies.			
	5. Briefly describe the history of its development. The system was designed for use by managers of all programs that have a direct impact on safety. The software was prepared by a consultant in phases to allow user feedback. The cost was less than \$100,000.			
<b>State of Development</b>	6. For how long and in approximately how many applications has your organization used this technology? The system has been used for over four years, and about 200 active users access the system. It has been used to modify snow removal programs, deer fence analysis, our rumble strip policy, access management applications, head-on collision correction, pedestrian safety program, heavy truck inspection, construction traffic control plans, etc.			
	7. What additional development is necessary to enable routine deployment of the technology? Training has been conducted, an help function was added, and a phone number available for users.			
	8. Have other organizations used this technology? If so, please list organization names and contacts.			
	Organization	Name	Phone	E-mail
	WFRC (MPO)	Jory Johner		<a href="mailto:jjohner@wfrc.org">jjohner@wfrc.org</a>
U of U	Dr. Joe Perrin	801-585-1019	<a href="mailto:perrin@civil.uta.edu">perrin@civil.uta.edu</a>	
BYU	Dr. Grant Schultz	801-422-6332	<a href="mailto:gschultz@byu.edu">gschultz@byu.edu</a>	
<b>Potential for Payoff</b>	9. What benefits has your organization realized from using this technology? Include cost savings, safety improvements, transportation efficiency or effectiveness, environmental benefits, or other advantages over other existing technologies. Programs and policies have been modified to improve safety aspects of our business. Reductions in crashes at specific sites have been observed.			
<b>Implementation Potential</b>	10. Please describe what actions another transportation agency would need to take to adopt this technology. Similar software could be created to allow the crash data gathered to be accessed and used by decision-makers. Some aspects may not be needed such as GIS applications or special reporting.			

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	<p>11. What is the estimated cost, effort, and length of time required for procurement or adoption by another transportation agency? Approximately \$100,000 over 12 to 18 months. These could be somewhat higher for agencies with larger crash data files.</p>
	<p>12. What organization(s) currently supply and provide technical support for this technology? Utah DOT Research Division, Traffic &amp; Safety Division, and GIS Unit. Consultant support through iWorQ Consulting.</p>
	<p>13. Please describe any legal, regulatory, social, intellectual property, or other issues that could affect ease of implementation. The only restrictions are related to the sensitivity of the crash data. Access to the system should be carefully controlled.</p>
<b>Willingness to Champion</b>	<p>14. Is the sponsoring DOT willing to promote this technology to other states, if partially supported by the AASHTO Task Force on Technology Implementation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
<b>Date Submitted</b>	<p>15. Date: August 26, 2005</p>

16. Please include image(s) of sketches or photographs, if available  Image(s) are attached.\*  
Power Point presentations are best way to observe how the system works. See attachment.

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<b>AASHTO CONTACT</b>	<p>MARTY VITALE ADMINISTRATIVE COORDINATOR FOR ENGINEERING AASHTO</p>	<p>PHONE: 202.624.5862 FAX: 202.624.5469 <a href="mailto:mvitale@aaashto.org">mvitale@aaashto.org</a></p>
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## Concept & Purpose

- Crash Data, Pavement Condition Information, and AADTs to decision-makers
- Enhance designs and programs
- Create & track performance measures

## Application Characteristics

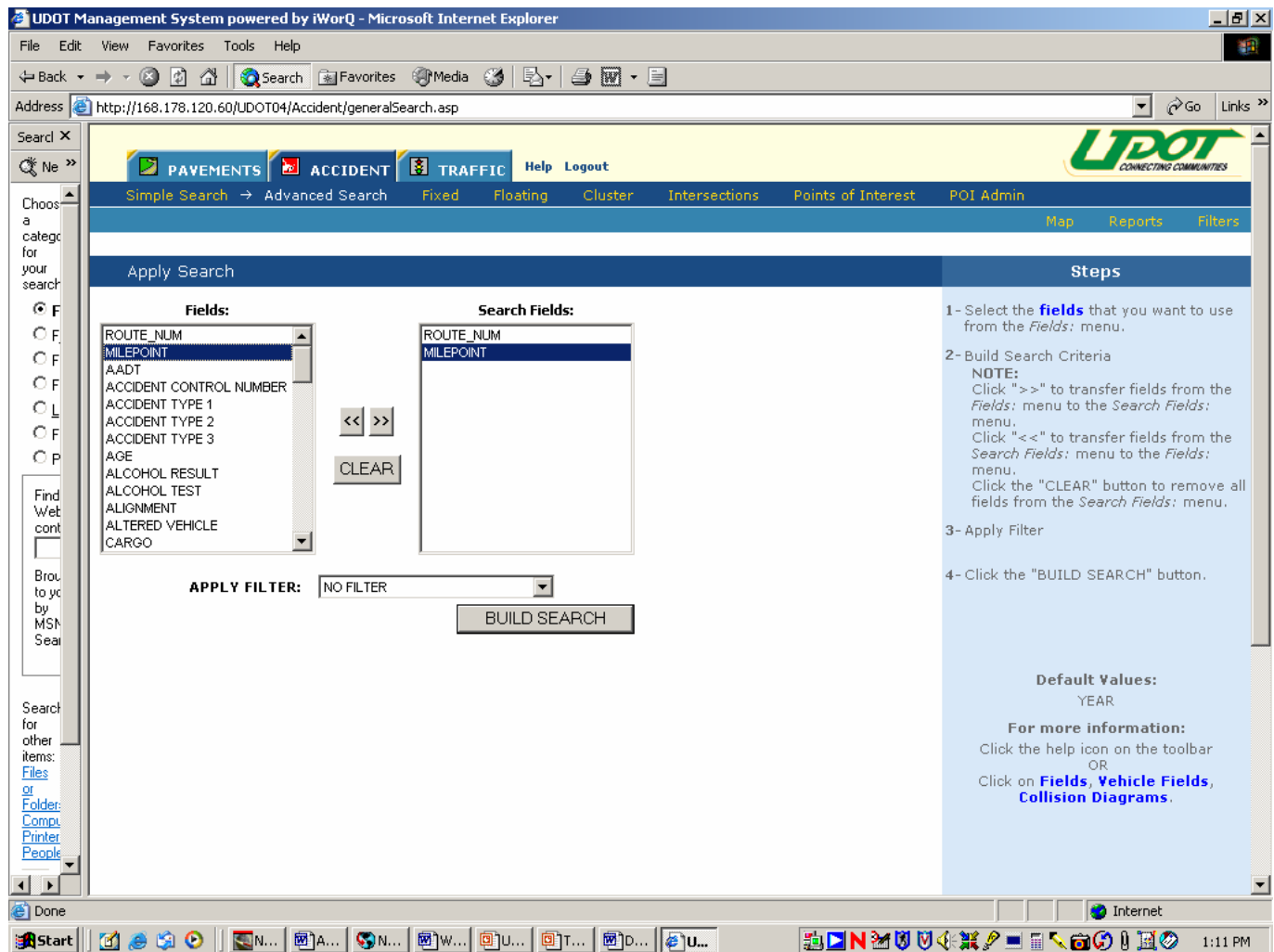
- Web delivered
- iWorQ/InGeo
- Oracle based
- ArcIMS for mapping
- 1.2 million records

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# Crash Data Query Types

(12 years of data)

- General Accident Search
- Fixed Segment Analysis
- Floating Segment Analysis
- Cluster Analysis
- Intersection Investigation
- Point of Interest Investigation
- Map Search



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**Accident Information**

YEAR	1992
ACCIDENT CONTROL NUMBER	22321
MILEPOINT	3.76
DATE	6/19/1992
DAY OF WEEK	FRIDAY
TIME	6/19/1992 10:20:00 PM
COUNTY	SUMMIT
RAMP NUMBER	NULL
ROUTE_NUM	NULL
LOCATION DESCRIPTION	NULL
SEVERITY	NO INJURY
TRAFFIC CONTROL	TRAFFIC LANES MARKED
ALIGNMENT	STRAIGHT AND LEVEL
WEATHER	CLEAR
SURFACE CONDITION	DRY
ROADWAY CONDITION	NULL
LIGHT CONDITION	DARKNESS STREET OR HIGHWAY NOT LIGHTED
KIND OF LOCALITY	OPEN COUNTRY
NUMBER OF VEHICLES	1
COLLISION TYPE	SINGLE VEHICLE
ACCIDENT TYPE 1	MV-ANIMAL(WILD)
ACCIDENT TYPE 2	NULL
ACCIDENT TYPE 3	NULL
EMS REPORT NUMBER	NULL
TIME CALLED	6/19/1992 3:15:00 PM
TIME ARRIVED	6/19/1992
TIME COMPLETED	6/19/1992 5:00:00 PM

**Accident Info**

all accidents WHERE (Year BETWEEN 1992 AND 2003) AND (Milepoint BETWEEN 0 AND 999) AND (Route\_Num = 0040) AND (Accident Type 1 = MV-Animal(Wild))

MILEPOINT	VEHICLES	VIEW
1.23	1	Info
1.53	1	Info
2.04	1	Info
3.76	1	Info
3.88	1	Info
4.04	1	Info
4.14	1	Info
4.3	1	Info
4.33	1	Info
4.54	1	Info
4.97	1	Info
5.06	1	Info
5.06	1	Info
5.69	1	Info
6	1	Info
6.01	1	Info
6.06	1	Info
6.07	1	Info
6.1	1	Info
6.12	1	Info
6.66	1	Info
6.83	1	Info
7.09	1	Info
7.14	1	Info
7.3	1	Info
7.3	1	Info
7.67	1	Info
8.04	1	Info

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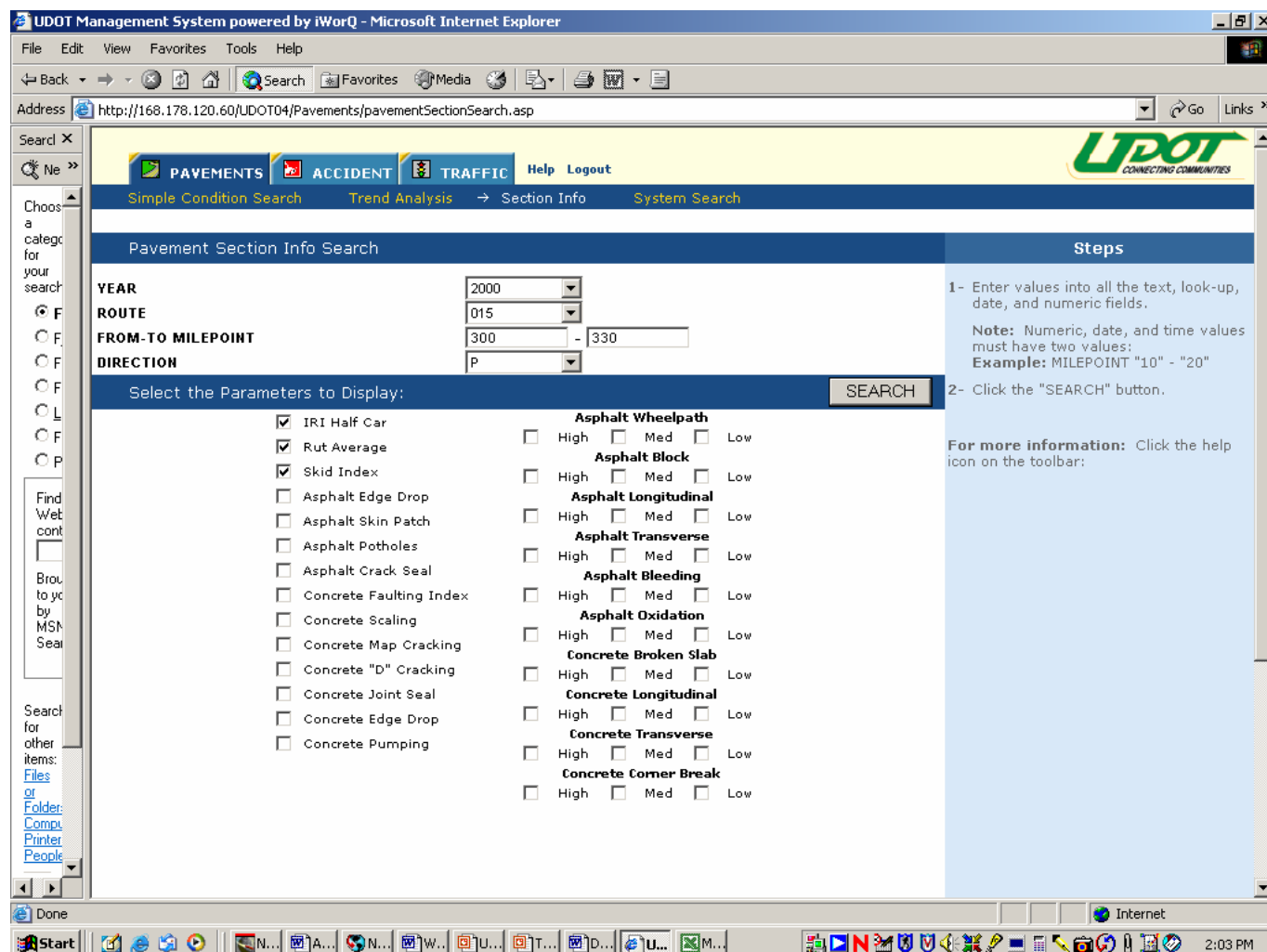
The screenshot displays a web browser window titled "UDOT - Microsoft Internet Explorer" showing a GIS application. The browser's address bar contains the URL "http://168.178.120.60/UDOT04/Accid". The application interface includes a search sidebar on the left with a "PAVEMENTS" section and search criteria for "YEAR" (1992), "ROUTE\_NUM" (0040), "MILEPOINT" (0), and "ACCIDENT TYPE 1" (MV-ANIMAL). The main map area shows a road network with red markers indicating accident locations. A blue box highlights a specific area near "Summit". The map includes labels for "Echo Canyon", "Echo Dam", "Dixie Hill", and "Summit". A "Layers" panel at the bottom of the map area lists "UTAHLIGHT.TIF", "WATER", "REGIONS", "BORDER", "OUTLINE", and "CITY BOUNDARIES", all of which are checked. The Windows taskbar at the bottom shows the system clock as 1:51 PM.

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# Pavement Condition Data

(5 years of data)

- Simple Condition Search
- Trend Analysis
- Section Information
- System Search



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# Average Annual Daily Traffic (AADT) 20 years of data

ROUTE	MILEPOINT	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983
A00080	0 - 1.48	6196	6081	5510	5496	5300	5185	4805	5045	4770	4555	4465	4280	4060	3800	3230	3000	2795	2590	2550	3540
A00080	1.48 - 2.43	7950	7795	7935	7912	7630	7465	6920	7265	6870	6560	6495	6235	5915	5530	5140	4775	4425	4075	4020	3840
A00080	2.43 - 3.98	7950	7795	7935	7912	7630	7465	6920	7265	6870	6560	6495	6235	5915	5530	5140	4775	4425	4075	4020	3840
A00080	3.98 - 41.3	7871	7815	7515	7896	7615	7455	6910	7255	6860	6550	6485	6220	5900	5520	5120	4755	4415	4075	4010	3830
A00080	41.3 - 48.93	7765	7730	8070	8050	7762	7595	7040	7395	6995	6680	6615	6345	5870	5490	5140	4775	4400	4025	4010	3830
A00080	48.93 - 56.21	7965	7930	8075	8052	7765	7600	7040	7395	6995	6680	6615	6345	5870	5490	5140	4775	4400	4025	4010	3830
A00080	56.21 - 61.85	8180	8140	8288	8264	7970	7800	7370	7740	7320	6745	6680	6405	5945	5560	6485	4855	4460	4065	4010	3830
A00080	61.85 - 69.54	8352	8311	8455	8440	8140	7966	7390	7765	7345	6855	6790	6510	6175	5775	5430	5045	4635	4225	4010	3830
A00080	69.54 - 76.46	8380	8345	8495	8475	8170	8000	7415	7790	7370	7040	6975	6690	6345	5935	5530	5135	4755	4335	4010	3830
A00080	76.46 - 83.45	9561	8825	8985	9000	8680	8495	8190	8600	8135	7770	7695	7380	7135	6675	6215	5775	5375	5265	4940	4770
A00080	83.45 - 88.51	11061	10325	9575	9550	9210	9014	8585	8760	8285	7910	7835	7580	7300	6825	6355	5905	5675	5445	5120	4950
A00080	88.51 - 98.77	13283	12547	10611	10188	9825	9615	8900	8900	8420	9050	8965	8595	8415	7870	8815	6550	6310	6165	5840	5630
A00080	98.77 - 101.41	36170	34175	32990	31600	30470	28316	26365	25335	24015	24415	23065	22300	21860	20725	19580	18200	17380	17585	13760	1355
A00080	101.41 - 101.61	22005	20790	20070	19225	18540	17230	16050	15270	14540	14115	13335	12890	12610	13550	12280	11415	11120	10825	10520	1031
A00080	101.61 - 104.44	22005	20790	20070	19225	18540	17230	16050	15270	14540	14115	13335	12890	12610	13550	12280	11415	11120	10825	10520	1031
A00080	104.44 - 109.49	22815	21565	20815	19938	19222	17865	17015	16350	15500	15075	14240	13475	12850	13815	10925	12090	11890	11690	11385	1117
A00080	109.49 - 111.47	22815	21565	20815	19938	19222	17865	17015	16350	15500	15075	14240	13475	12850	13815	10925	12090	11890	11690	11385	1117
A00080	111.47 - 113.47	25535	24125	23290	20500	19975	18564	17680	17770	16845	15840	14965	14170	13400	14410	10925	12090	11890	11690	11385	1117
A00080	113.47 - 114.53	36350	34345	33155	31758	30954	28768	27245	26180	24815	23335	22045	20490	15155	20210	0	27000	24990	0	0	0
A00080	114.53 - 115.55	59790	56490	54535	52238	50915	47315	44220	42495	40285	37880	35785	31390	21150	30210	30315	30240	27740	0	0	0
A00080	115.55 - 117.48	54840	51815	50020	47914	46700	43399	38025	36540	34640	32575	30775	26550	15460	25765	0	25400	21990	0	0	0
A00080	117.48 - 118.08	55415	53230	51840	50823	43106	28979	32040	30515	29060	26790	25320	21215	10165	20335	25465	25400	21990	0	0	0
A00080	118.08 - 120.04	62460	60000	9000	0	0	41010	56755	53625	50995	45550	40880	35570	7115	29565	37025	36935	31990	31910	28125	2694
A00080	120.05 - ...	113330	99000	19330	11063	10890	68252	106049	106350	103543	97110	94515	88415	80845	83605	85835	86700	83240	78805	77760	7849