
IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: Infrastructure

Date: 11/20/2008

Time: 8:25 AM

Page 396 of

563

Agency IT Plan Contact Data

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Review of Agency's IT Architecture

Our infrastructure consists of regular phone and cell phones costs, software, and regular data processing charges.

Phone/Cell Phone:

Regular phone and long distance services are provided to us by ITD using the state meridian system. Our cell phone services are provided by Alltel and Verizon under state contract. Currently, we have 21 Blackberry devices distributed to staff officers, regional commanders, and one civilian staff member. We also have 56 regular cell phones issued to district sergeants, federal program personnel, executive security personnel, pilot, 8 MDUG members, 2 canine handlers and on-call IT staff.

Software:

The HP runs several types of specialized software packages that have yearly updates and/or maintenance agreements. One of the main packages is for accident reconstruction. This software is used by our officers to diagram serious accidents. Each of our 8 region offices has at least one reconstructionist on staff. Other specialized software packages include Premier MDC, Hazmat Loader, and PCMiller.

--Premier MDC is our mobile data application that provides our troopers with car-to-car messaging, NCIC, Drivers License, Motor Vehicle, and HP RMS information. The vendor responsible for maintenance is Motorola, maintenance is paid on a yearly basis on a per license basis.

--Hazmat Loader provides detailed information on placards and other Hazmat related information. The vendor of Hazmat Loader is RegScan.

The Highway Patrol utilizes Microsoft Office for our desktop application suite. Currently, we have 30% converted to Office 2007.

Regular Data Processing:

Regular data processing is defined as all monthly on-going charges billed to us by ITD, excluding special programming projects.

Networking and application hosting are the most significant costs. Each of our 9 offices are equipped with a T-1 line for access to the network. During the 09-11 biennium, the Highway Patrol will be increasing the number of T-1 lines into our larger offices located in Bismarck, Fargo, Grand Forks, and Minot. This is needed to help bandwidth issues due to digital video use. During the 09-11 biennium, the agency will also be adding NDGOV accounts for all of our sworn officers.

ITD hosts and maintains several applications for the Highway Patrol.

1. Daily Activity System: This system provides a detailed record of each officer's activities. It tracks the amount of time worked during the shift, the number of specific activities done such as equipment weighed, overtime, leave time, and mileage. Several automated processes are associated with this application: mileage is submitted to NDDOT for billing, and overtime and leave time are sent to Peoplesoft. Data entry for this system is done by the troopers via mobile data.
2. Case Management System: This system tracks citations, field contacts, and case/incidents. Access to this system by the troopers is done via mobile data. With the use of

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: **Infrastructure**

Date: 11/20/2008

Time: 8:25 AM

Page 397 of

563

this system, we are able to have a completely electronic traffic stop. From January 1, 2007 – December 31, 2007 the Highway Patrol completed 97% of their citations online. This system also sends citations each day for the Supreme Court thus eliminating duplicate data entry. In return, the court sends a disposition file back to update the status of each citation.

3. E-Permits: This is a web-based system for the sale of Oversize/Overweight permits. We offer several permit types online. In 2007, the e-permit system issued 6,985 permits to the trucking industry, with revenue of \$436,032.
4. Web-citations: This system was designed for use by the States Attorney's and the clerks of court to inquire on any citations done by the Highway Patrol.
5. Web-schedules: This system was designed for use by State Radio and Clerks of Court to inquire on work schedules of Highway Patrol Troopers.
6. Receipts/Permits: This POS (Point of Sale) system is utilized by our Permits Office for the sale of permits. Some permit types are not available on-line and can be purchased over the phone. This system also tracks data entry permits sold in the field. In 2007, this system (excluding E-permits) sold 46,505 permits with revenue of \$4,032,255.36.

An increase in data processing funding has also been identified for on-going programming of the above systems. However, these updates are not large enough to be broken out as projects.

Planned Infrastructure Activities and Changes

The NDHP has planned several activities that affect the current infrastructure.

Additional Network Resources

The first change includes expanding our 9 current T-1 network connections to 13. A second T-1 will be added to Minot, Fargo, Bismarck, and Grand Forks. During the 07-09 biennium, a portion of our digital in-car video project included servers for storage and retrieval of criminal videos. Since deploying the servers, several offices have seen a significant decrease in bandwidth. Approximately \$80,000 is needed to accomplish this activity.

Digital Photography

The NDHP currently utilizes 35mm cameras for crash investigation photos. During the 07-09 biennium, specialized digital cameras were purchased for our accident reconstructionists, with the plan to provide digital cameras to each of our troopers. In doing so, we are estimating an increase in data storage to retain these photos for 7 years. Approximately \$25,000 is needed to accomplish this activity.

System Development

Three needs have been identified for the 09-11 biennium:

- 1) Expansion of E-Permits: The agency would like to roll-out two new types of permits for purchase on-line. The first type being Oversize. This is our largest permit type. Approximately \$22,000 is needed for development.
- 2) Enhanced Reporting: The agency would like to develop several ad-hoc reports in each of our 3 main systems. This will allow our personnel easy access to the data being collected. Approximately \$10,000 is needed for development.
- 3) GPS Data: The agency is acquiring a GPS unit for each patrol vehicle. To accurately track incidents and crashes we will need to add the ability to store this information into

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: **Infrastructure**

Date: 11/20/2008

Time: 8:25 AM

Page 398 of

563

our Case Management System, as well as utilize the data in State Radio's CAD application. Approximately \$17,000 is needed for development of the storage, reporting, and collection of GPS data.

Projects

Both the Broadband Wireless and Cell Phone expansion projects will be changes to our infrastructure.

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: Infrastructure

Date: 11/20/2008

Time: 8:25 AM

Page 399 of

563

1. If applicable, describe the reason for any extraordinary increase or decrease in your infrastructure costs.

The NDHP is showing an increase in basic Data Processing costs due to ITD rate increases in several areas including technology fee, shared file and print services and application hosting. In the 07-09 biennium the NDHP implemented digital video in the patrol vehicles. The additional network traffic for storage and retrieval of these videos has adversely affected the bandwidth in the larger NDHP offices. To help combat these issues a second T-1 is planned.

2. Total number of desktop computers: 81
Number of desktops for which you are requesting replacement funding: 40
Average replacement cost/desktop: 1,350

3. Total number of laptop computers: 163
Number of laptops for which you are requesting replacement funding: 72
Average replacement cost/laptop: 4,200

What state planning region are these desktop/laptop computers located?

Region 1	17	2	25	3	17	4	29	5	30	6	18	7	90	8	18
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4. What percentage of these pcs are running the following operating systems:

(total should be equal to 100%)

Open Source OS	0 %
MAC OS	0 %
Windows Vista	2 %
Windows XP	98 %
Other	0 %

5. What additional expenditures are being paid out of non-appropriated funds?

Please explain:

IT Asset Management Plan

Our asset management includes PC, Mobile Data laptop, and printer replacement.

PC/Mobile Data Laptop Replacement

The NDHP operates and maintains 81 networked PCs and 163 non-networked mobile data laptops. Our computers are scattered across the state in 46 separate locations. We have established a 4-year replacement cycle on all of our computers and laptops. During the 09-11 biennium the HP will be replacing half of the PCs and half of the laptops. The average cost per PC is estimated at \$1350; this includes both office automation and power user machines. The majority are classified as power user machines. The average cost per laptop is \$4200; these laptops would fall into the custom category as they are ruggedized for use in extreme temperatures and environments. Touch screen and backlit keyboard functionality is also important for officer safety. The Highway Patrol has been using the Panasonic Toughbooks for 10 years and the agency has seen only a handful of issues. This is critical to maintaining a 24X7 working environment.

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: **Infrastructure**

Date: 11/20/2008

Time: 8:25 AM

Page 400 of

563

Printers

The HP operates 3 types of printers: Laser, Photo Inkjet, and Thermal. Laser printers have a 7-year replacement cycle, Photo Inkjet a 4-year replacement cycle, and the Thermal car printers have an 8-year replacement cycle. During the 09-11 biennium the HP will replace 1 large laser printer at our HQ office and 2 photo inkjets.

Software

The HP runs several types of specialized software packages that have yearly updates and/or maintenance agreements. The HP stays within one version of the latest software release.

--Accident Reconstruction. This software is updated every three years.

--Premier MDC is our mobile data application that provides our troopers with car-to-car messaging, NCIC, Drivers License, Motor Vehicle and HP RMS information. The vendor responsible for maintenance is Motorola; maintenance is paid on a yearly basis on a per license basis.

--Hazmat Loader provides detailed information on placards and other Hazmat related information. The vendor of Hazmat Loader is RegScan.

The Highway Patrol utilizes Microsoft Office for our desktop application suite. Currently we have 30% converted to Office 2007. New office packages are released with new computers unless the packages have incorporated new technologies that are vital to our business process.

Human IT Assets

The NDHP has four full time employees in the IT department. This is the result of gradual employee increases over a twelve year period. The employee provisions provided are identical for all full time employees of the Highway Patrol. The following is from the Recruitment Selection Manual of the NDHP:

It is now, and has been, the policy of the NDHP to provide equal employment opportunities for all qualified applicants without regard to race, color, national origin, sex, religion, age or disability except as provided by law or on a bona fide occupational qualification. The NDHP complies with the provisions of the North Dakota Human Rights Act.

The NDHP is committed to basic principles that create an efficient, effective, and fair pre-employment selection process that will result in the appointment of those individuals who best possess the skills, knowledge, and abilities necessary for an effective and respected agency.

The NDHP is responsible for enforcing the provisions of the laws of the state relating to the protection and use of the highways in the state and the operation of motor and other vehicles upon such highways. Troopers are empowered to furnish police protection, to render first aid to the injured, and provide assistance when called upon. The NDHP also has the authority to prevent crime and to pursue and apprehend violators.

The NDHP is committed to providing the best service to the people of the state of North Dakota. Only through the selection and retention of the most qualified personnel are we able to continue to provide this service.

The NDHP's commitment to aggressive recruitment will provide a pool of available applicants that is representative of the approximate proportion of the makeup of the available workforce in the state of North Dakota.

A. Recruitment Posture

The continuing viability and success of the NDHP, and more particularly, the uniformed division and the Commercial Motor Carrier Division will be based, to a large extent in future years, on the recruitment, hiring, schooling and retention of new employees. To this end, the NDHP proposes modification of their ongoing Recruitment Program by the assignment of employees throughout the state whose responsibility will be to work in a coordinated program of outreach for the purposes of attracting qualified applicants; providing any needed follow up on prospects; and to increase effectiveness in the hiring and retention of personnel, particularly, protected class group members.

The overall objective of the Recruitment Program will be to establish and maintain an adequate pool of qualified applicants for both sworn and non-sworn positions, and to achieve all goals of the Affirmative Action Plan which apply to the NDHP.

B. Commitment

1. The Superintendent and staff of the NDHP restate a commitment to a policy of providing equal employment opportunities to all qualified applicants. This commitment will be presented to all employees of the NDHP by appropriate methods of communication and in a timely fashion. The personal commitment and dedication of those personnel who will be intimately involved on a day-to-day basis in the recruitment of employees will be obtained to ensure success in reaching desired goals.
2. The Recruitment/Selection Manual is to be kept current and on file in the Administrative Services Division and regional offices. This manual outlines the order of events in the NDHP recruitment/selection process.

II. WORKPLACE DIVERSITY PLAN

- A. The Workplace Diversity Plan has been developed with the assistance of the Attorney General's legal staff. It follows the guidelines established by North Dakota. Refer to the current Workplace Diversity Plan for information on the Equal Employment Opportunity Plan and Affirmative Action Plan.
- B. To minimize adverse impact in the NDHP selection process, it is the intent of the department to increase recruitment in minority areas and follow our Affirmative Action Plan. Refer to the "Workplace Diversity Plan" prepared by the NDHP.

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: Infrastructure

Date: 11/20/2008

Time: 8:25 AM

Page 402 of

563

	CURRENT APPROPRIATION	BUDGET REQUEST	OPTIONAL ADJUSTMENTS	REQUEST PLUS OPTIONALS	SUBSEQUENT BIENNIUM
IT5110 SALARIES - PERMANENT	\$0	\$298,224	\$0	\$298,224	\$0
IT5120 SALARIES - OTHER	\$286,000	\$0	\$0	\$0	\$300,000
IT5160 FRINGE BENEFITS	\$0	\$98,396	\$0	\$98,396	\$0
IT5161 ADDITIONAL FRINGE BENEFITS	\$94,000	\$0	\$0	\$0	\$100,000
IT5310 IT SOFTWARE AND SUPPLIES	\$166,000	\$50,000	\$0	\$50,000	\$50,000
IT5510 IT EQUIPMENT UNDER \$5000	\$386,000	\$386,000	\$0	\$386,000	\$386,000
IT6010 IT DATA PROCESSING	\$546,000	\$802,000	\$0	\$802,000	\$802,000
IT6020 IT COMMUNICATIONS	\$198,000	\$198,000	\$0	\$198,000	\$198,000
Total Budget:	\$1,676,000	\$1,832,620	\$0	\$1,832,620	\$1,836,000
001 STATE GENERAL FUND	\$1,424,000	\$1,560,060	\$0	\$1,560,060	\$1,561,000
400 HIGHWAY TAX DISTRIBUTION FUND - 400	\$214,000	\$234,560	\$0	\$234,560	\$237,000
P016 MTR CARRIER SAFETY ASSISTANCE PROGR	\$30,000	\$30,000	\$0	\$30,000	\$30,000
P220 BORDER INSPECTION PROGRAM	\$4,000	\$4,000	\$0	\$4,000	\$4,000
P221 NEW ENTRANT PROGRAM	\$4,000	\$4,000	\$0	\$4,000	\$4,000
Total Funding:	\$1,676,000	\$1,832,620	\$0	\$1,832,620	\$1,836,000

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: 1 Broadband Wireless Access to Mobile Data

Date: 11/20/2008

Time: 8:25 AM

Page 403 of

563

Agency Priority - 1

Project Type: Major enhancement/upgrade

Project description

Cellular aircards will be purchased for each patrol vehicle. The technology will provide each trooper with secure broadband wireless access to complete roadside reports, query the Criminal Justice Information Sharing (CJIS) system, and receive photographs about Amber Alerts, wanted suspects and other law enforcement information. The system would also allow access to our file server and secure department intranet.

Briefly describe the business need or problem driving the proposed project.

The NDHP has been using mobile data for 10 years. The current system operates at 19.2 kbs; this speed is adequate for text-based mission critical applications such as Premier MDC. However, it does not work very well with our Case Management system and does not allow for the efficient receipt of photographs. The NDHP needs to access the CJIS portal from patrol vehicles. More and more state and federal data has become available for law enforcement use but requires broadband speed.

Describe how the project is consistent with the organizations mission.

The mission of the NDHP is to make a difference every day by providing high quality law enforcement services to keep North Dakota safe and secure. This project will give the troopers more timely information allowing them to better serve the public.

Describe the anticipated benefits of the project and who will derive the benefits.

There are several benefits to implementing this project such as officer safety, more efficient patrol stops, download of video and increased communication. The increased bandwidth will provide our road troopers with greater and faster access to information systems. With more information the officer is able to mitigate risks in a situation. With the current system an average traffic stop is approximately 10 minutes. In the testing of the cellular broadband solution, traffic stops were

Describe the impact of not implementing the project.

Without implementing Broadband access to our patrol vehicles, the HP will continue to struggle with keeping our Case Management System accessible in the vehicle. The technology currently being used is older and challenges are beginning to show. 97% of our citations are completed on-line in the vehicle; if a new solution is not found, there may be a need to hire a data entry technician. Due to our geographic locations across the state wireless hot spots are not feasible as the coverage would

Identify any risks associated with implementing this project and explain how the risks will be mitigated.

One risk identified is coverage. The cellular data coverage statewide has not been tested in all areas. It has been our experience with regular cell phones that different providers have better coverage in areas not covered by the other carrier. To reduce this risk a few aircards from both carriers would be procured and a coverage analysis would be completed to determine the best carrier in all of our areas. It is feasible that aircards would be selected using both vendors.

Describe the additional costs?

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: 1 Broadband Wireless Access to Mobile Data

Date: 11/20/2008

Time: 8:25 AM

Page 404 of

563

No additional costs

Enter any additional costs for the project that are not included in IT Object Codes used in the Project Cost Screen?

Additional Costs? - \$0

Optional Project Costs - \$0

Total Project Cost? - \$0

Tot Proj Costs + Optionals - \$0

What additional expenditures are being paid out of non-appropriated funds?

N/A

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: 1 Broadband Wireless Access to Mobile Data

Date: 11/20/2008

Time: 8:25 AM

Page 405 of

563

		CURRENT APPROPRIATION	BUDGET REQUEST	OPTIONAL ADJUSTMENTS	REQUEST PLUS OPTIONALS	SUBSEQUENT BIENNIUM
IT6020	IT COMMUNICATIONS	\$0	\$170,000	\$0	\$170,000	\$0
	Total Budget:	\$0	\$170,000	\$0	\$170,000	\$0
001	STATE GENERAL FUND	\$0	\$148,000	\$0	\$148,000	\$0
400	HIGHWAY TAX DISTRIBUTION FUND - 400	\$0	\$22,000	\$0	\$22,000	\$0
	Total Funding:	\$0	\$170,000	\$0	\$170,000	\$0

IT Plan – Agency Submitted

Date: 11/20/2008

504 HIGHWAY PATROL

Time: 8:25 AM

Version: 2009-B-01-00504

Page 406 of

Project: 2 Cell Phone For Sworn Officers

563

Agency Priority - 2 **Project Type:** Major enhancement/upgrade

Project description

This project will equip all of the sworn officers with cell phones. The NDHP currently issues cell phones for special assignments only. The need to issue the phones to all sworn officers has grown.

Briefly describe the business need or problem driving the proposed project.

Communication is an essential part of NDHP operations. Over the course of the last couple of years the one-way paging technology has been phased out. Cell phone deployment will enhance administrative communications.

Describe how the project is consistent with the organizations mission.

The mission of the NDHP is to make a difference every day by providing high quality law enforcement services to keep North Dakota safe and secure. The deployment of cell phones will increase communications between troopers and first-line supervisors as well as the public.

Describe the anticipated benefits of the project and who will derive the benefits.

The benefit of having each officer equipped with a cell phone is enhanced department-wide communications.

Describe the impact of not implementing the project.

The impact of not implementing cell phone technology would create a need to research and implement new paging technologies.

Identify any risks associated with implementing this project and explain how the risks will be mitigated.

No risks identified

Describe the additional costs?

No additional costs

Enter any additional costs for the project that are not included in IT Object Codes used in the Project Cost Screen?

Additional Costs? -

Optional Project Costs -

Total Project Cost? -

\$0

Tot Proj Costs + Optionals -

\$0

IT Plan – Agency Submitted**504** HIGHWAY PATROL

Version: 2009-B-01-00504

Project: **2 Cell Phone For Sworn Officers**

Date: 11/20/2008

Time: 8:25 AM

Page 407 of

563

What additional expenditures are being paid out of non-appropriated funds?

N/A

IT Plan – Agency Submitted

504 HIGHWAY PATROL

Version: 2009-B-01-00504

Project: 2 Cell Phone For Sworn Officers

Date: 11/20/2008

Time: 8:25 AM

Page 408 of

563

		CURRENT APPROPRIATION	BUDGET REQUEST	OPTIONAL ADJUSTMENTS	REQUEST PLUS OPTIONALS	SUBSEQUENT BIENNIUM
IT6020	IT COMMUNICATIONS	\$0	\$82,000	\$0	\$82,000	\$0
	Total Budget:	\$0	\$82,000	\$0	\$82,000	\$0
001	STATE GENERAL FUND	\$0	\$72,000	\$0	\$72,000	\$0
400	HIGHWAY TAX DISTRIBUTION FUND - 400	\$0	\$10,000	\$0	\$10,000	\$0
	Total Funding:	\$0	\$82,000	\$0	\$82,000	\$0