Partnering With Academia: It Was The 'SMART' Thing To Do

Projects & Partnerships: Who Knew GIS Could Do That!

ESRI User Conference July 2003

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VP, Business Development
& Strategic Alliances
DMTI Spatial

Overview

- DMTI Spatial™
- SMART™ Program
- Benefits
- Other Programs

Overview

Corporate facts:

- Established in 1994
- Strategic solution provider for Government (Federal, Provincial, Municipal)
- Counting all Canada's Telcos, Utilities, Internet Mapping, Oil & Gas, GPS Companies among it's top clients

Customer focused:

- fixme@dmtispatial.com
- wishlist@dmtispatial.com
- support@dmtispatial.com
- customer survey

Founding Principles

- To create the definitive geographic base data
  - High accuracy
  - Updated daily - released quarterly
  - Open standards, multi-format (i.e. ESRI, etc)
  - Exact topology
  - Very deep, multi-level geospatial databases
  - Full integration across disparate data types and data sources

Libraries…
Do we take them for granted

- "Canadian school libraries are in crisis"
- "Libraries with no new books in the last 10 yrs"
- "Libraries… are an endangered species"
- "Pouring more money into library staff and resources can bring scores up by 3 to 15%"

- "*School libraries in a miserable crisis, Carrier says*", Globe & Mail, Kim Honey, May 29, 2002

SMART

- Spatial Mapping Academic Research Tools
- The DMTI Spatial response to the DLI
- First and only private sector firm to participate

SMART Quotes

- Doug Banting, Geography Department, Ryerson University "With the access to commercial-grade data such as that from DMTI Spatial, the learning environment is in keeping with professional expectations…. This innovative private-sector arrangement.. is truly welcome and it is hoped the initiative will inspire others in the field to grant access to their data for teaching purposes. It advances the entire GIS community by producing better graduates."

SMART Data Sets

- CanMap® Streetfiles
- CanMap® RouteLogistics
- 1996 Census Geography Boundary Files
- Enhanced Postal Code File
- Forward Sortation Areas (FSAs)
- Canadian Atlas Map Bundle
- Enhanced Points of Interest
- CanMap® Parks

SMART Data Sets
continued

- CanMap® Rail
- 30m Digital Elevation Model
- 90m Digital Elevation Model
- CanMap® Water (Coming September 2003)
- GeoPinpoint™

  - *1996 Census data (special request)

SMART Annual Maintenance Program

- New coverage
- Product improvements
- Customer driven “wish list” items
- New Product Additions

Cost

- Annual flat fee administered by the University of Toronto
- Based on number of participants
- Fixed regardless of the number of new data sets added

SMART Participants

- University of Ottawa
- University of Windsor
- University of Guelph
- York University
- Universite de Sherbrooke
- University of Alberta
- University of Waterloo
- Brock University
- Trent University
- Ryerson University
- Southern Alberta Institute of Technology
- Laval University
- University of New Brunswick
- Okanagan University College
- University College of the Caribou

SMART Participants

- Universite de Moncton
- Niagara College
- Buchanan Library
- University of Victoria
- Simon Fraser University
- University of Lethbridge
- University of Calgary
- Mount Royal College
- Dalhousie University
- University of Western Ontario
- Olds College
- University of Saskatchewan
- Lakehead University
- McMaster University
- Laurentian University
- University of Northern British Columbia

SMART Participants

- Memorial University
- Acadia University
- College Garneau
- Carleton University
- University of Toronto
- University of Regina
- Queen's University
- Universite du Quebec a Montreal
- McGill University
- University of Manitoba
- Wilfrid Laurier University
- University of Montreal
- University of British Columbia
- University of Winnipeg

- **45 Institutions**

dmti Spatial

CanMap Streetfiles

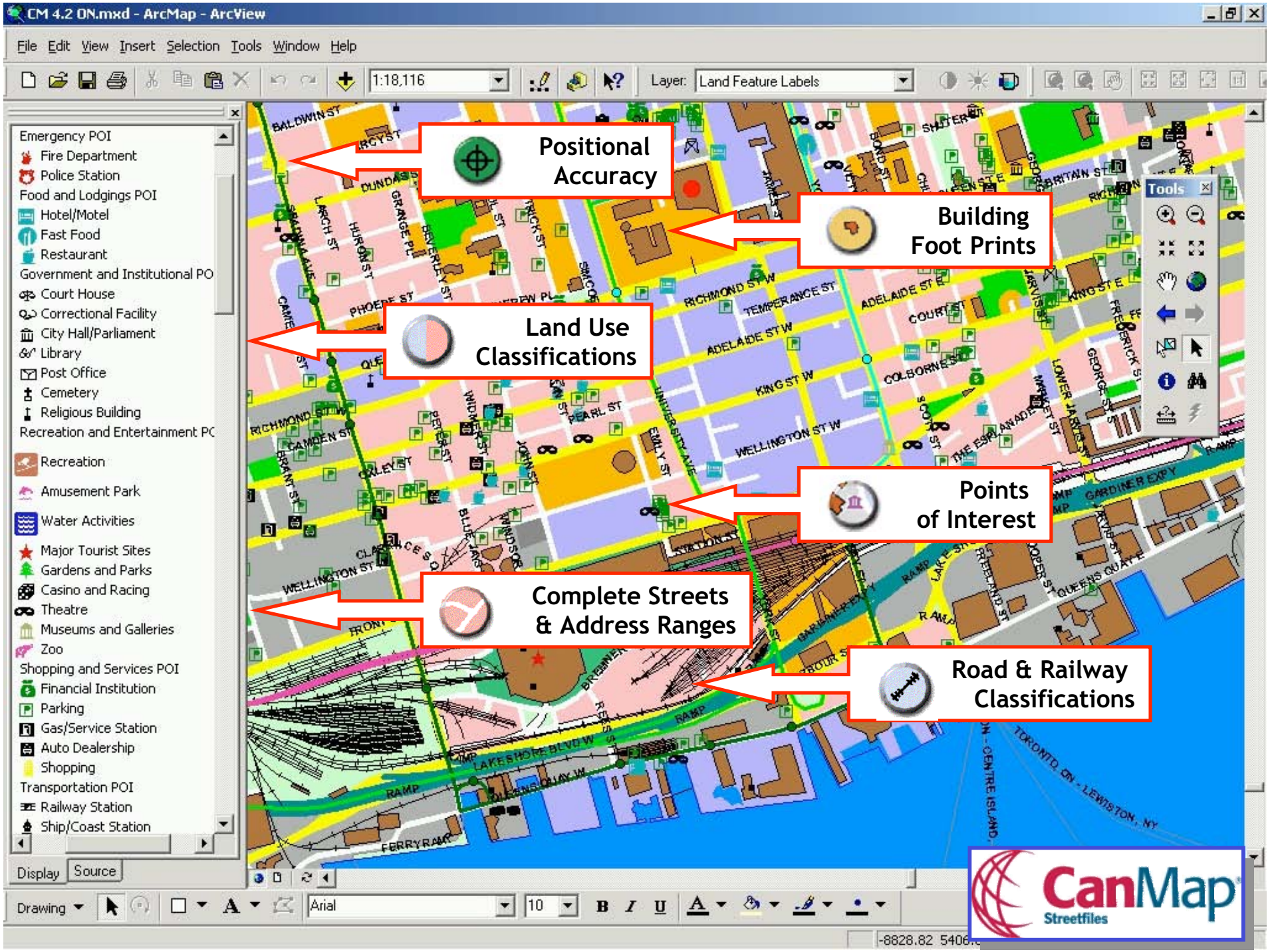
really smart spatial solutions™

Nationwide Features

- Street centreline road network
- Street names and address ranges, 99% and 88% of the population respectively
- Regional and municipal boundaries
- 6 cartographic road classifications
- Major roads and highways are included in a separate layer (cartographically distinguishable from other streets)

CanMap's 748 Urban Areas Includes:

- Land use classifications
- Points of interest
- Building footprints
- Buffered street centerline road network casements
- Railway and utility features
- Topographic features and named geographic features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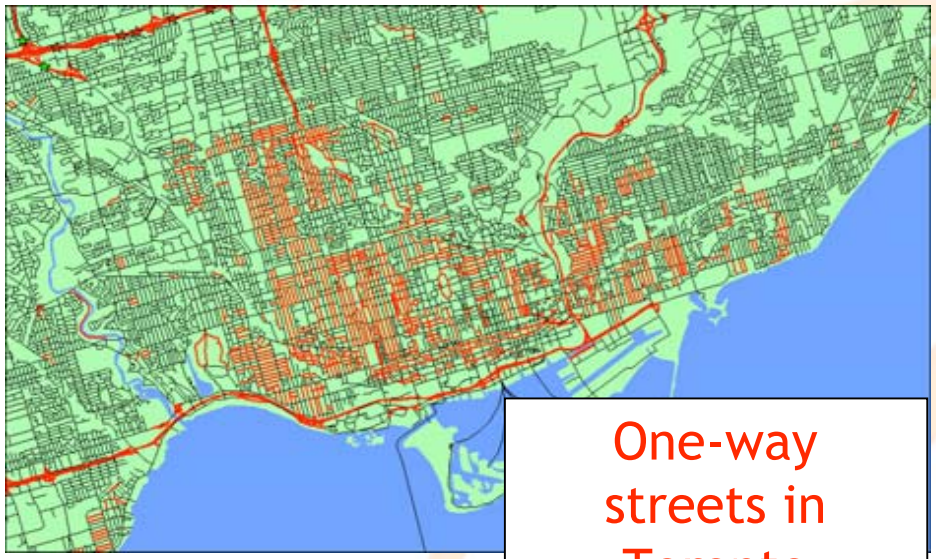
File Edit View Insert Selection Tools Window Help
1:18,116
Layer: Land Feature Labels
Emergency POI
Fire Department
Police Station
Food and Lodgings POI
Hotel/Motel
Fast Food
Restaurant
Government and Institutional PO
Court House
Correctional Facility
City Hall/Parliament
Library
Post Office
Cemetery
Religious Building
Recreation and Entertainment PC
Recreation
Amusement Park
Water Activities
Major Tourist Sites
Gardens and Parks
Casino and Racing
Theatre
Museums and Galleries
Zoo
Shopping and Services POI
Financial Institution
Parking
Gas/Service Station
Auto Dealership
Shopping
Transportation POI
Railway Station
Ship/Coast Station
Display
Source
Positional Accuracy
Building Foot Prints
Land Use Classifications
Points of Interest
Complete Streets & Address Ranges
Road & Railway Classifications
Tools
Drawing
Arial
10
CanMap Streetfiles

CanMap® RouteLogistics



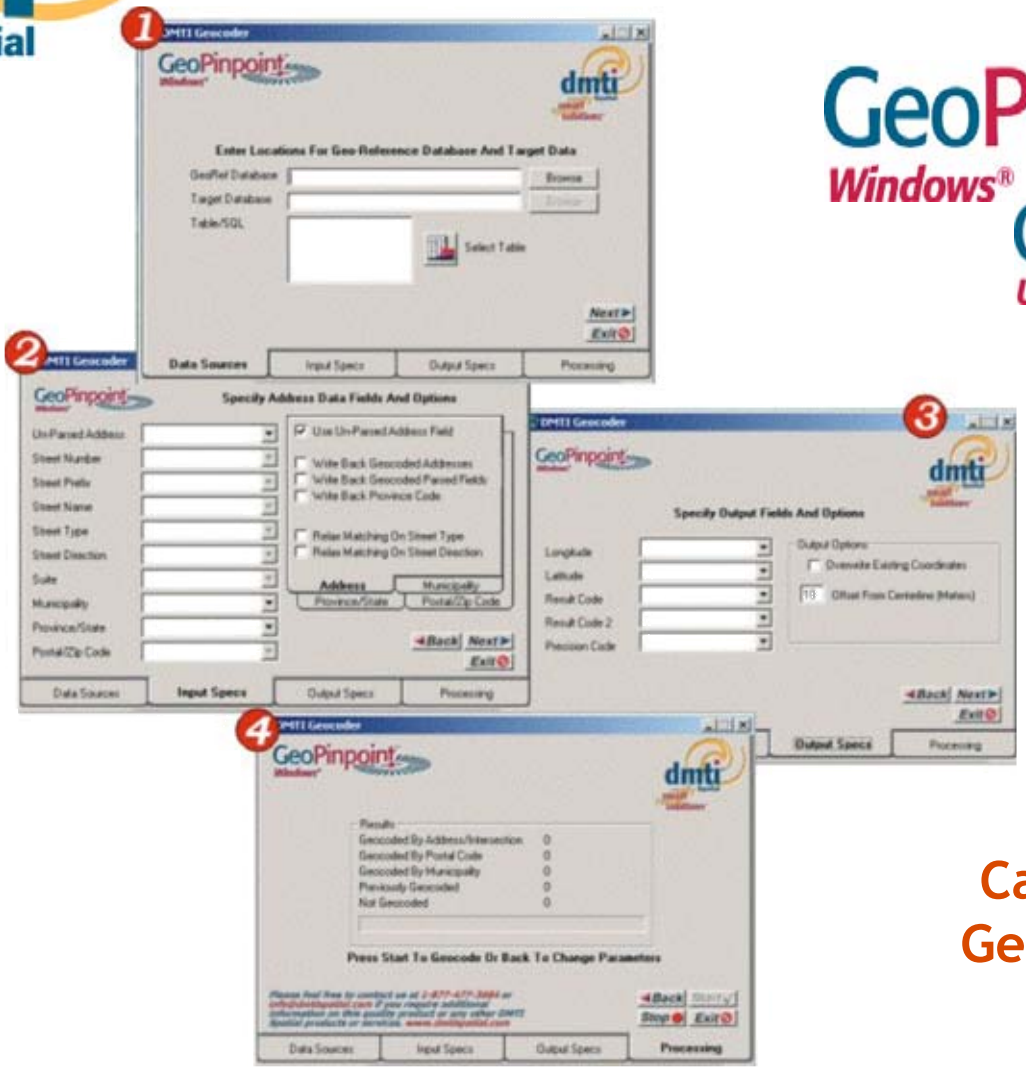
One-way streets in Toronto

- Topologically-correct network fabric based on CanMap® Streetfiles
- One-way streets in urban areas
- Physical turn restrictions
- Estimated travel time in minutes
- Estimated travel speed
- Highway exit numbers
- FSA boundaries
- Road gradient based on road elevation
- Route Hierarchy

GeoPinpoint™ Geocoding Software

dmti Spatial

really smart spatial solutions™



GeoPinpoint™ Windows®

GeoPinpoint™ Unix®

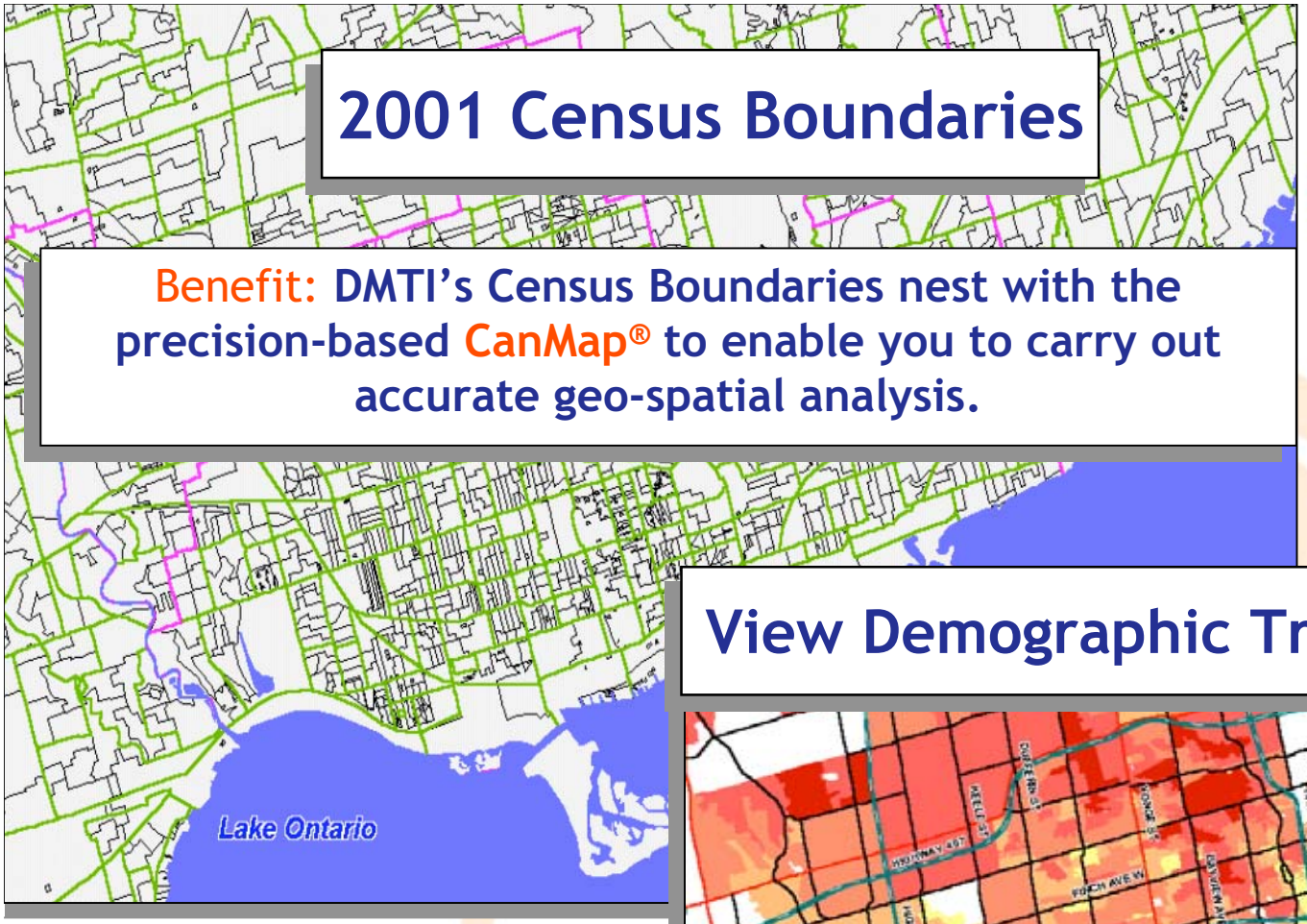
GeoPinpoint™ ActiveX™

Canada's Premier Geocoding Package

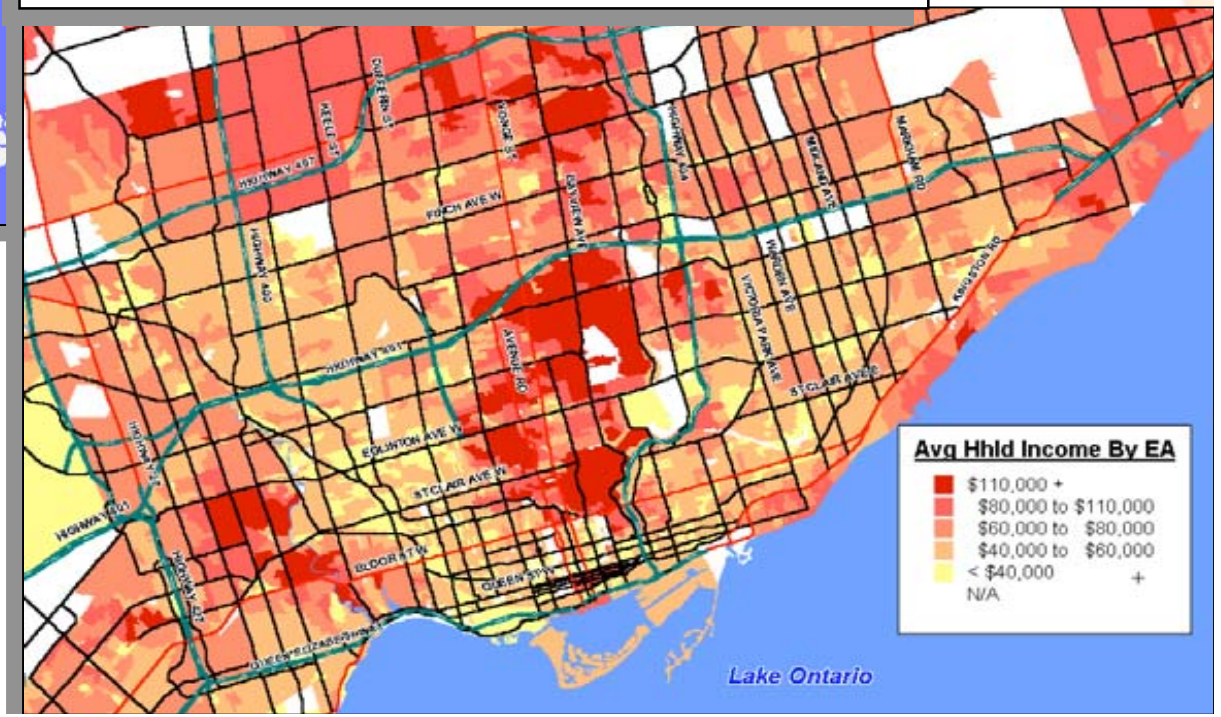
2001 Census Boundaries

really smart spatial solutions™

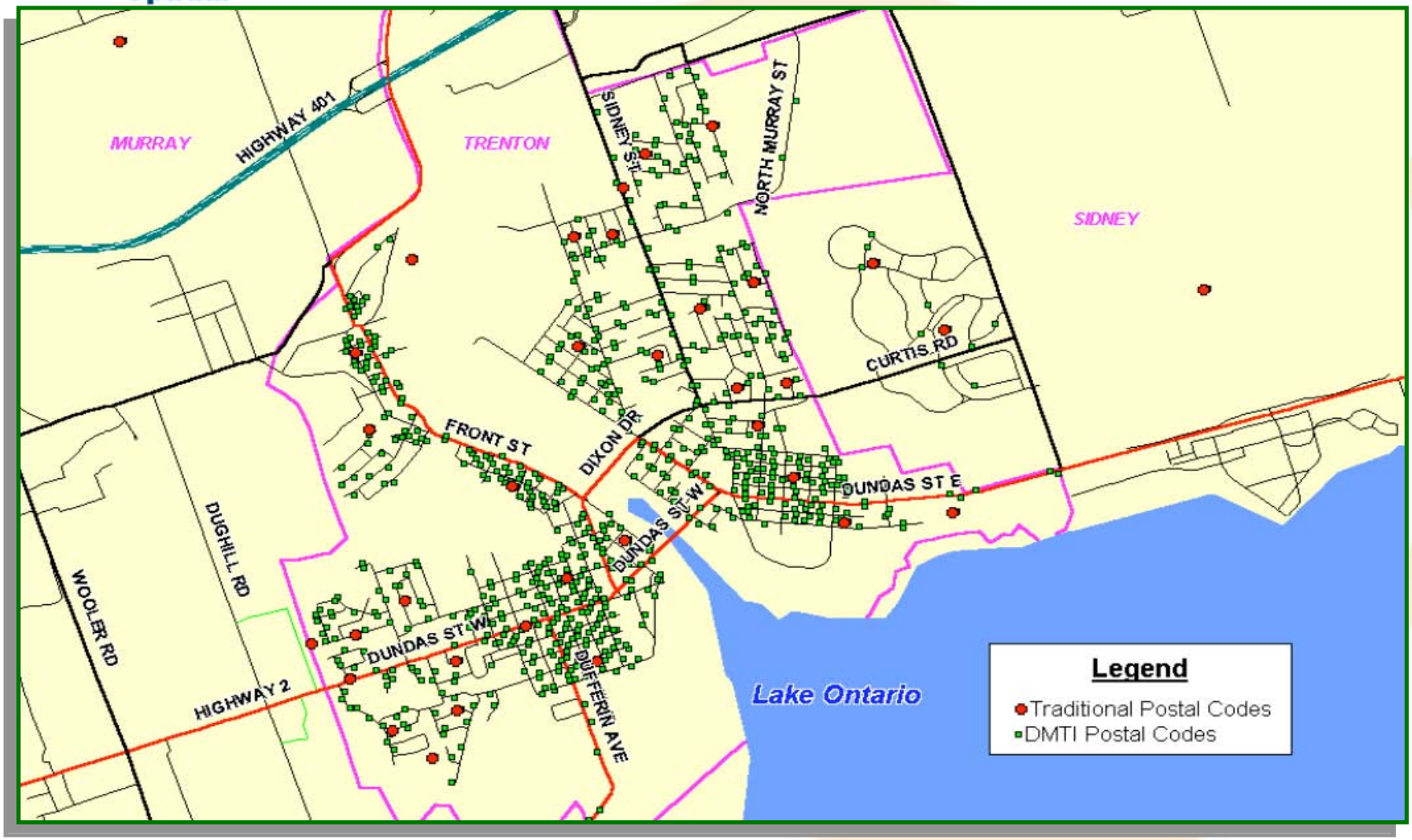
Benefit: **DMTI's Census Boundaries nest with the precision-based CanMap® to enable you to carry out accurate geo-spatial analysis.**



View Demographic Trends ...



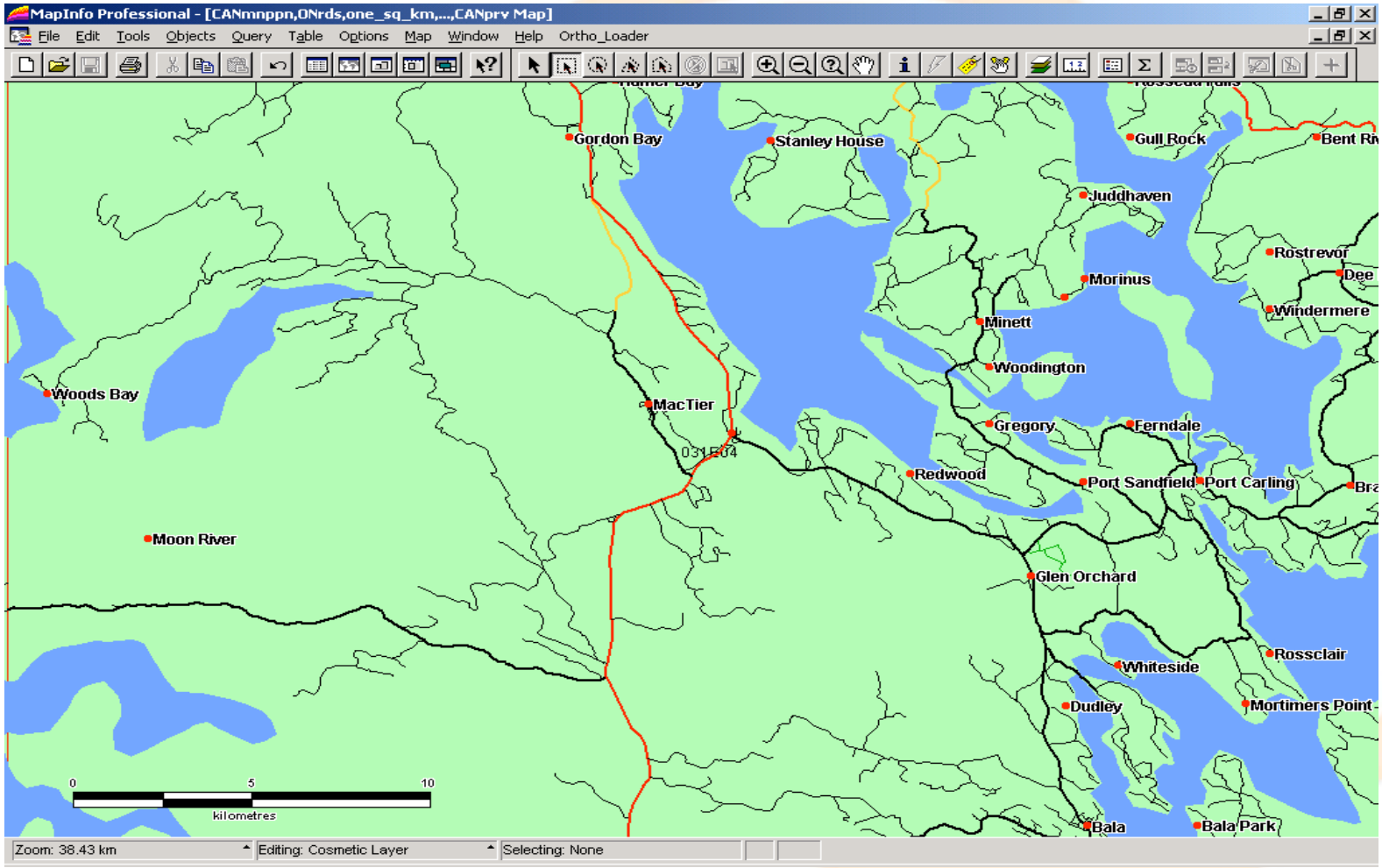
Postal Geography



Enhanced Points of Interest

- Nearly 1 million Canadian business and recreational points of interest
- Business name, address, city, province, postal code
  telephone number
- Standard Industry Classification (SIC) code
- Coordinate location (X, Y)
- Geocode and attribute precision code

CanMap® Water



SMART Quotes

- "The DMTI Spatial initiative to provide high-quality geospatial data to post-secondary institutions across Canada is a groundbreaking achievement for GIS education in this country. Faculty and students will benefit from the best Canadian geospatial data available anywhere. This agreement will most likely be a model for many other educational initiatives to benefit from GIS education in North America", said Marcel A.J. Fortin, John P. Robarts Library, University of Toronto.

SMART Uses

- Teaching
- Research
- Publishing
- Internet
- Intranet

SMART Data On The Web ...

- Campus Locations
- Building & Department Locations
- Routing
- Special Studies

SMART Data
Departmental Users

- Geography
- Urban Planning
- Transportation
- Business Administration
- Biology
- Environmental Programs
- Social Working

SMART Data Departmental Users
cont'd

- Criminology
- Security and Defence
- Recreation
- Engineering

SMART: Fostering GIS Centres of Excellence

- Benefits
  - Excellent Value
  - Access to comprehensive national geographic data sets
  - Data currency assured with annual updates
  - License extends to all departments within the academic institution..no need to worry about number of seats
  - Terrific teaching tool
  - Canadian based research and analysis

SMART: Fostering GIS Centres of Excellence

- **Benefits** cont'd
  - Reduces number of disparate data sources eliminating time, money & effort
  - Permits development of non-commercial web based services in support of academic programs

The Great Canadian Mapping Challenge

- DMTI Spatial Scholarship Program
  - September 2003-April 2004
  - Multi-disciplinary
  - SMART Program Participants
  - Submission based on use of DMTI Spatial in support of analysis across disciplines
  - Awards announced in June 2004
  - Review Panel

The Great Canadian Mapping Challenge (cont'd)

- Awards:
  - Total of $10,000 to be awarded

- Under Graduate Prizes
  - First prize $3000
  - Second prize $2500
  - Third prize $2000

- Graduate Prize
  - Single Award $2500

SMART Quotes

- "We are excited by this innovative collaboration with DMTI Spatial to provide Canadian geospatial data to educators and students. Using these current Canadian datasets will provide a meaningful and relevant context in which to learn geographic techniques and issues. This is an excellent example of how private industry can partner with educational institutions to mutual benefit.", stated Lynn Moorman, Department of Geography, University of Calgary.

SMART Benefits: DMTI Spatial

- "It was the SMART thing for DMTI to do…"
  - Builds Partnerships (www.carpooling.ca)
  - Seeding for the future
  - Great "branding" strategy
  - Cost effective
  - GIS product ready recruits
  - Great Visibility
  - Great Press
  - GEOCONSORTIUM-L@LISTSERV.UTORONTO.CA
  - Giving Back!

Fear Factor

- Commercialization
- Pilfering
- Perception

- *"Based on TRUST…we are confident in the system that is in place!"*

Other DMTI Spatial Educational Programs

- ESRI K-12 Program
- ArcCanada 3.0
- Sir Sanford Fleming GIS Program
- COGS Award
- SMART™ USA

ESRI K-12 Program

Local Data Set

- Provides an education license for the 'classroom'
- Classroom = all machines within school and a copy for the teacher's home computer
- License managed by the teacher (usually geography)
- Cost: $250 per classroom. (Update @ $250)

ESRI K-12 Program
(cont'd)

Local Data Set

- 10x10 km box centred on school location
- Rural schools can chose a box in an urban area
- Products provided:
  - CanMap® Street File
  - 1996 Census Tables for use with EA file
  - Enhanced Points of Interest File including Health Care, Education, Accommodations

ESRI ArcCanada

The Schools and Libraries Edition:

- CD ROM focusing on Canada at the national and provincial level
- Sold in conjunction with ESRI Canada education programs

ESRI ArcCanada
(cont'd)

DMTI Data:

- Hydrography
- Time Zone
- Area Code
- Provincial Border
- International Border
- Highways
- Major Cities
- Middle Cities
- Municipality
- Regional Municipality
- FSA Centroids
- Rail
- National Parks
- Provincial Parks
- Indian Reserves

Sir Sandford Fleming

- Student Research Project Credit Course:
  - Demonstrate how GeoPinpoint™ (geocoding software), CanMap® RouteLogistics (routing data) and Enhanced Points of Interest can be used in conjunction with ArcIMS to create a Risk Assessment tool
- DMTI Benefits:
  - An example of a tool how are data can be used by clients to coordinate procedures and emergency services in the event of a "disaster"

Sir Sandford Fleming (cont'd)

- The tool will:
  - Geocode an incident (i.e. gas leak)
  - Determine what Emergency zone the incident has occurred in
  - Provide type and density of population
  - Buffer incident and determine what "features" are effected by the incident (i.e. gas leak and schools near by)
  - Create a report describing features that are effected by the incident and show maps

COGS Award

- Centre for Geographic Sciences in Nova Scotia
  - Two awards:
  - Best Analytical Major Project in Business Geographics $150
  - Best Standing in the Advanced Location Analysis Course $100

SMART USA

- Launch September 2003
- Same principles as SMART™ Canada
- In partnership with University of Toronto
- Cost $3500 US Enterprise Wide
- Fewer data sets due to Government of Canada royalty requirements
  - CanMap Streetfiles, CanMap Route Logistics, GeoPinpoint, Enhanced Points of Interest, CanMap Rail, CanMap Parks, Enhanced Postal Code File, Canadian Atlas Map Bundle, Forward Sortation Areas

SMART Quotes

- "The DMTI Spatial data will, without a doubt, be an excellent and most used series of files for our users and will do much to improve the overall satisfaction of the user community – the thousands of researchers and students across Canada. On behalf of all members, and our users, thank you for this initiative.", stated James Boxall, Killam Library, Dalhousie University, Ex-president, ACMLA.

Giving Back

- SMART Program
- Disaster Relief Support
  - SARS, West Nile, Ice Storm & Manitoba Flood
- Charity Assistance Program
- Local GIS (Local Government Information Sharing)

Other DMTI Spatial Programs

- CanGMS
- ProvGMS
- GovGMS
- National Security

SMART Quotes

"The consortia purchase of the five DMTI Spatial national products is a ground-breaking initiative.

This is the first time in Canada that a commercial geospatial data provider has recognized the critical importance of affordable access to their data products to support the rapid development of GIS teaching and research in Canadian post-secondary institutions.

DMTI Spatial is to be commended for making these valuable resources available to the Canadian education sector."

Grace Welch, President

Association of Canadian Map Libraries and Archives

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