



GIS as a Factor in Standard of Care Decisions: Executive Aspect

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GIS as a Factor in Standard of Care Decisions: Executive Aspect

There are 61 PowerPoint slides and a video in this presentation. Details behind the visuals are contained in the Proceedings paper.

GIS as a Factor in Standard of Care Decisions: Executive Responsibilities

Preparing staff in all units for an increasingly
GIS-oriented work environment.

GIS as a Factor in Standard of Care Decisions: Executive Responsibilities

Preparing themselves and staff for standard of care situations in which the design, development, and application of geographic information systems (GIS) are issues in whether duty of care obligations are met to a reasonable degree.

GIS as a Factor in Standard of Care Decisions: Executive Responsibilities

Instructing staff in terms of the geographic information and associated information needed to satisfy duty of care and standard of care obligations.

GIS as a Factor in Standard of Care Decisions: Executive Responsibilities

Approving the information content of duty of care and standard of care documents (e.g., laws, by-laws, policies, plans, programs, budgets, manuals).

GIS as a Factor in Standard of Care Decisions: Executive Responsibilities

Directing professional staff who provide the information (e.g., data, studies, files, records, maps, surveys, and reports) needed to ensure that legal and other duty of care and standard of care obligations can be achieved.

GIS as a Factor in Standard of Care Decisions: Executive Responsibilities

Adopting the budget and work program envelopes containing the GIS technology and applications capabilities.

GIS as a Factor in Standard of Care Decisions: Executive Responsibilities

Providing the resources which are appropriate under the circumstances to enable professional staff and technical staff to specify, acquire, process, disseminate, and apply the geographic information and associated information needed to satisfy standard of care and duty of care obligations.

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Address files
- Air pollution alerts
- Building demolitions
- Building permits
- By-laws

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Censuses
- Crimes against people reports
- Crimes against property reports
- Cyclist collision reports
- Development approvals

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Development charge schedules
- Emergency measures
- Emergency vehicle reports
- Engineering reports
- Environmental assessments

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Fire reports
- Flood reports
- Forest/tree inventories
- Green space inventories
- Habitat inventories

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Hazards reports
- Health alerts
- Heritage property files
- Impact assessments
- Infrastructure reviews

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Intersection modifications
- Inspection reports
- Maintenance of bike path reports
- Maintenance of parks reports
- Maintenance of public housing reports

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Maintenance of roadways reports
- Maintenance of sidewalks reports
- Maps/mapping
- Motor vehicle collision reports
- Noise studies

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Pandemic alerts
- Pedestrian slip-and-fall events
- Pedestrian-motor vehicle collisions
- Performance analysis reports
- Performance measure reports

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Plan amendments
- Plans – Comprehensive
- Plans – General
- Plans – Official
- Plans of subdivision

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Property assessment files
- Public safety programs
- Public safety reports
- Restaurant inspection reports
- Rezoning applications

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Risk analyses
- Road construction alerts
- Road signage
- Road widenings
- Seismic studies

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Surveys/surveying
- Toxic waste facility hearings
- Traffic counts
- Traffic police assignments
- Transit routing

Public Agency Duty of Care/Standard of Care Materials and Functions that Have, Could Have, or Should Have GIS Applications: An Indicative Listing

- Urban impact assessments
- Utility corridors
- Water quality reporting
- Water supply analysis
- Zoning approvals

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“New cap for leaky well – Torrent of oil
released as smaller cap is removed”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“Oil giant changes face –
Next BP head says he’ll put safety first”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“BP could start plugging oil well for good”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

- "Roads scholar takes stand for pedestrian safety"
- "Heavy trucks need side mirrors to prevent more deaths"
- "Chemical plant does not belong in residential area"
- "Ice-covered road blamed for multi-vehicle crash"
- "Board faces lawsuit over bullying"

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“Crossroads where cyclist killed known as puzzling, treacherous”

“Praying for water”

“Mayor: Flood fix priority for city”

“Flood victims want solution”

“Latest Midwest floods expose lessons unlearned”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“Taxpayers want answers for sewage spill”

“Death of elderly woman puts dangerous stretch of road in context”

“District did not send out contaminated water alert”

“Police action in Toronto worrisome”

“The road to anarchy”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“Top doc gives city a heads-up on helmet use”

“TSB urges reforms – Canada faces critical transportation safety issues”

“Tripping on strands”

“Double-talk on air pollution”

“Did agency give correct information about road closure traffic?”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“Trucker protests proposed 84-hour work week”

“Bike lanes would boost tourism, increase safety”

“Collision – Stop sign obscured by tree”

“Waste plan panned: King Edward can’t take more trucks”

“City health inspectors miss fast food strip”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“Staff approved roadway in protected area”

“Drinking water safety push”

“Habitat loss for large animals ignored in plans”

“Smog warning not issued”

“Mudslide was predictable”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“Fatal crash stokes up cellphone debate”

“Wetland feud heats up at city hall”

“Questions over safety”

“They tore down a heritage building – were all city staff asleep?”

“Notification missed 150 affected properties”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

- “Provincial agency ignores city’s growth projections”
- “The 100-year flood criteria are outdated”
- “Washed-out shoulder causes roll-over”
- “Halfway house location criticized”
- “Failure to properly plan for access leads to lawsuit”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

- “Developer cuts trees, blames county for error”
- “Transport and highway designs need overhaul”
 - “Urban sprawl – Other cities show us the dangers of uncontrolled development”
 - “Gross misuse of scarce water”
 - “Totally wrong place for a playground”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

- “Protesters rip expanded landfill plan”
- “Broken sidewalk causes broken leg”
- “Snow happens, deal with it – properly”
- “Bridges collapse, investigations begin”
- “Development on flood plain big mistake”

DEATHS, INJURIES, AND OTHER COSTS OF STANDARD OF CARE FAILURES? CHECK THE DAILY NEWS

“City withholds Carp River model”

“Pattern of high-speed crashes a warning sign”

“Avalanche zones need to be re-drawn

“Their projections are wrong, they used old data: expert”

“Contaminated meat: Inspectors slow to track shipments”

GIS and Standard of Care: Questions for Hearings, and Maybe Even for Trial

Q1. GIS and Standard of Care Basic Facts Question for Executive

**What did the defendant know about
the possibility of such an incident,
and when was it known?**

Q2. GIS and Standard of Care: Methods and Techniques Question 1 for Executive

What could the defendant have known about the possibility of such an incident, and when could it have been known?

Q3. GIS and Standard of Care: Methods and Techniques Question 2 for Executive

What should the defendant have known about the possibility of such an incident, and when should it have been known?

**Q4. GIS and Standard of Care:
Basic GIS Question A1
for Executive**

**Did the defendant use GIS
to achieve this state of knowledge?**

If YES

**What difference did GIS make to
what was known, and when it was known?**

Q5. GIS and Standard of Care: Basic GIS Question A2 for Executive

What methodology was used in making the decision to use a GIS application to achieve this duty of care obligation?

Q6. GIS and Standard of Care: Basic GIS Question A3 for Executive

**As a result of having that knowledge at that time,
what difference did GIS make to how the defendant
dealt with the standard of care situation?**

Q7. GIS and Standard of Care: Basic GIS Question A4 for Executive

What evidence does the defendant have to support the opinion about the difference using GIS made to the standard of care achieved?

Q8. GIS and Standard of Care: Basic GIS Question A5 for Executive

What evidence does the defendant have that GIS was the appropriate means to achieve the defendant's standard of care obligation?

Q9. GIS and Standard of Care: Basic GIS Question A6 for Executive

Specifically, how did using GIS serve the defendant's policy in regard to this duty of care obligation?

**Q10. GIS and Standard of Care:
Basic GIS Question A7
for Executive**

Specifically, how did using GIS serve the defendant's policy in regard to this standard of care obligation?

**Q11. GIS and Standard of Care:
Basic GIS Question B1
for Executive**

**Did the defendant use GIS
to achieve this state of knowledge?**

If NO

**Could the defendant have used GIS?
Should the defendant have used GIS?**

**Q12. GIS and Standard of Care:
Basic GIS Question B2
for Executive**

What methodology was used by the defendant in making the decision to not use a GIS application to achieve this duty of care obligation?

**Q13. GIS and Standard of Care:
Basic GIS Question B3
for Executive**

**What evidence does the defendant have
to support that decision?**

Q14. GIS and Standard of Care Basic GIS Question B4 for Executive

If GIS had been used, what difference could it or would it have made to what was known, and when it was known?

**Q15. GIS and Standard of Care:
Basic GIS Question B5
for Executive**

**What evidence does the defendant have
to support that opinion?**

**Q16. GIS and Standard of Care:
Basic GIS Question B6
for Executive**

**What evidence does the defendant have
which counters that opinion?**

**Q17. GIS and Standard of Care:
Basic GIS Question B7
for Executive**

**If GIS had been used,
what difference could it or would it have
made to the standard of care achieved?**

**Q18. GIS and Standard of Care:
Basic GIS Question B8
for Executive**

What evidence do you have to support your opinion about the difference using GIS would have made to the standard of care achieved?

**Q19. GIS and Standard of Care:
Basic GIS Question B9
for Executive**

**If GIS had been used,
what difference could it or would it have
made to the duty of care obligation?**

**Q20. GIS and Standard of Care:
Basic GIS Question B10
for Executive**

What evidence do you have to support your opinion about the difference using GIS would have made to the duty of care obligation?

Q21. GIS and Standard of Care: Basic GIS Question B11 for Executive

**What other questions remain to be asked
about the connections among GIS,
standard of care, and duty of care?**

Background Materials: Guidelines on Expert Witness Qualifications and Opinions

**B. Wellar. *Application of Walking Security Index Research to Standard of Care Situations and Analysis.* Federation of Urban Neighbourhoods
<http://www.urbanneighbourhoods.ca/>, and**

**B. Wellar. *Tips on Testifying as an Expert Witness,*
<http://www.slideshare.net/wellarb/aag-2007-tips-for-expert-witness>**

Background Materials: Guidelines on Expert Witness Qualifications and Opinions

B. Wellar. *Methods and Techniques that Could be Used in Making Decisions about Identifying, Adopting, or Implementing Sustainable Transport Practices.*
<http://www.wellar.ca/wellarconsulting/TC%20Project%20Research%20Report%201.pdf>

B. Wellar. *Sampler of Commentaries on Methods and Techniques that Could be Used in Making Decisions about Identifying, Adopting, or Implementing Sustainable Transport Practices.*
<http://www.wellar.ca/wellarconsulting/TC%20Project%20Research%20Report%203.pdf>

Background Materials: BP- Gulf of Mexico Video

W. Im. *Gulf Coast Oil Spill Trajectory Map.*

<http://www.imrivers.org/gulfcoastoilspill>

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