

Community Energy Mapping Hamilton, Ontario

Brian McHattie
Ward 1 Councillor
City of Hamilton
FCM Sustainable Communities
Conference



Hamilton

Hamilton Planning Policy and Politics

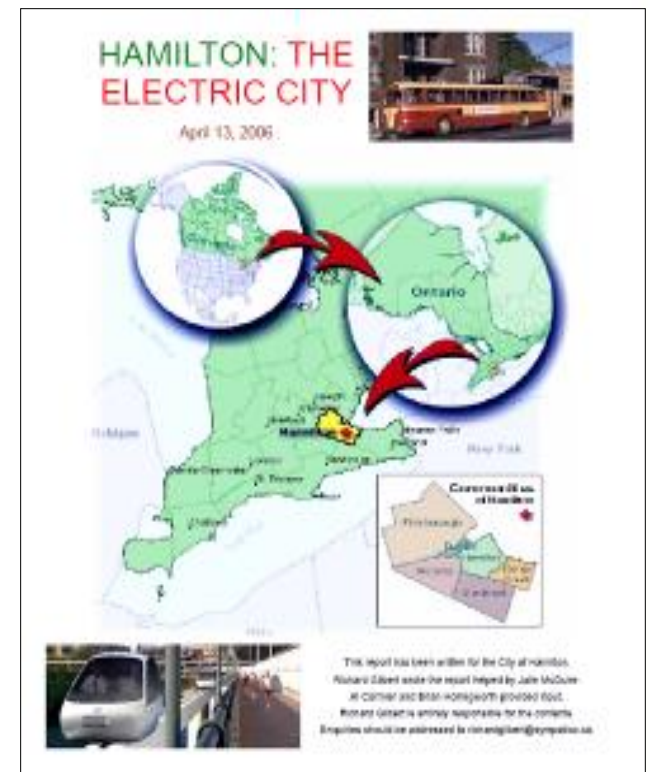
- *VISION 2020 - 1994*
 - A vision of a strong healthy, sustainable Hamilton shared by citizens, City Council, businesses and organizations
- *Growth Strategy - 2007*
 - 30 year plan to accommodate new people and jobs in Hamilton... TBL analysis - nodes and corridors option



Hamilton

Municipal Planning and Peak Oil Concerns

- Aerotropolis and Growth Strategy
- 2006 report 'The Electric City'
- The Big Move



Hamilton



Hamilton Long Term Rapid Transit System "B.L.A.S.T." (Conceptual Only)



Hamilton Community Energy Collaborative Began in 2008

- “Peak Oil” Phase 2
- Led by City of Hamilton and Horizon Utilities Corporation
- Partners
- Inventory of Energy Conservation
- Community Energy Mapping (CUI)
- Community Implementation Strategy



Hamilton

“New Age of Energy” Workshop

- Hosted by Hamilton Community Energy Collaborative
- *October 15th, 2009*



Hamilton

“Hands-on Energy Mapping” Workshop

May 27, 2010

- Getting participants thinking spatially about energy
 - Residential building energy retrofits
 - Renewable electricity generation
 - Renewable heat
 - District energy systems
 - Local land use and transportation



Hamilton

Community Energy Mapping Initiative – CUI

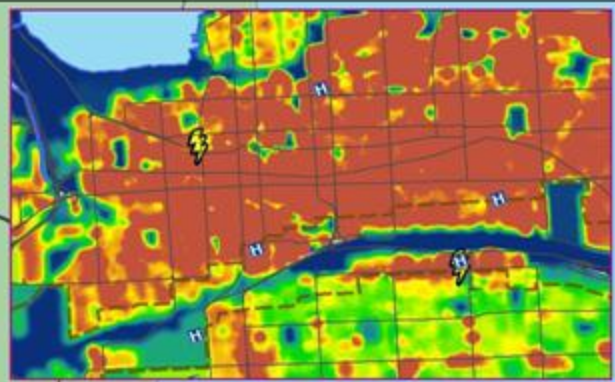
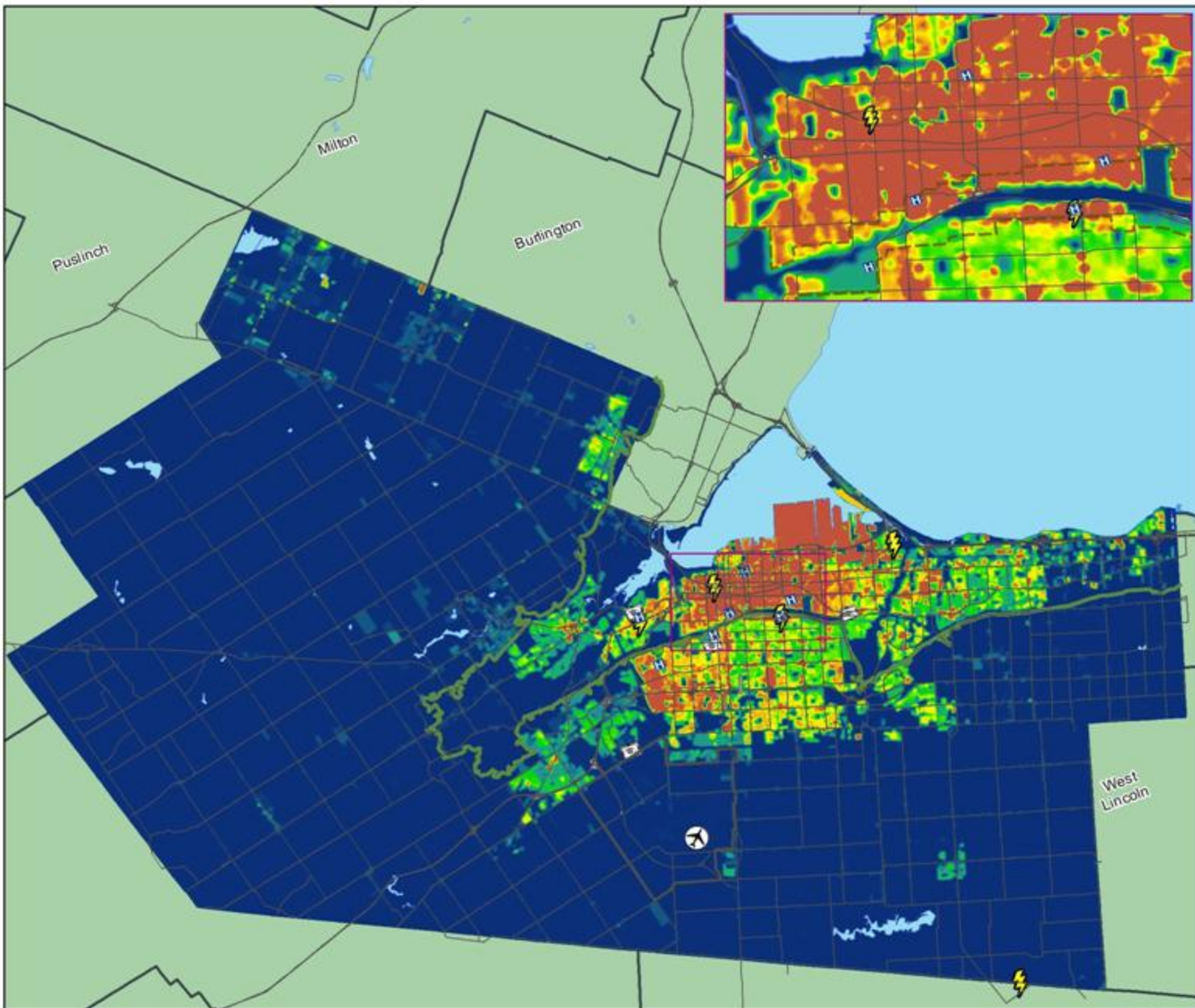
- Integrating energy information to help our community understand our energy options
- *Draft report February 2011*



Hamilton

Buildings Energy Density Trend 2008

City of Hamilton



Energy Density (GJ/ha)

- High
-
-
-
- Low

- Major Road
- Hospital
- College/University
- Community Energy Site
- Airport Area
- Escarpment
- Water Bodies
- Data not available

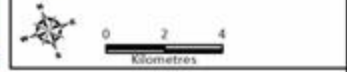




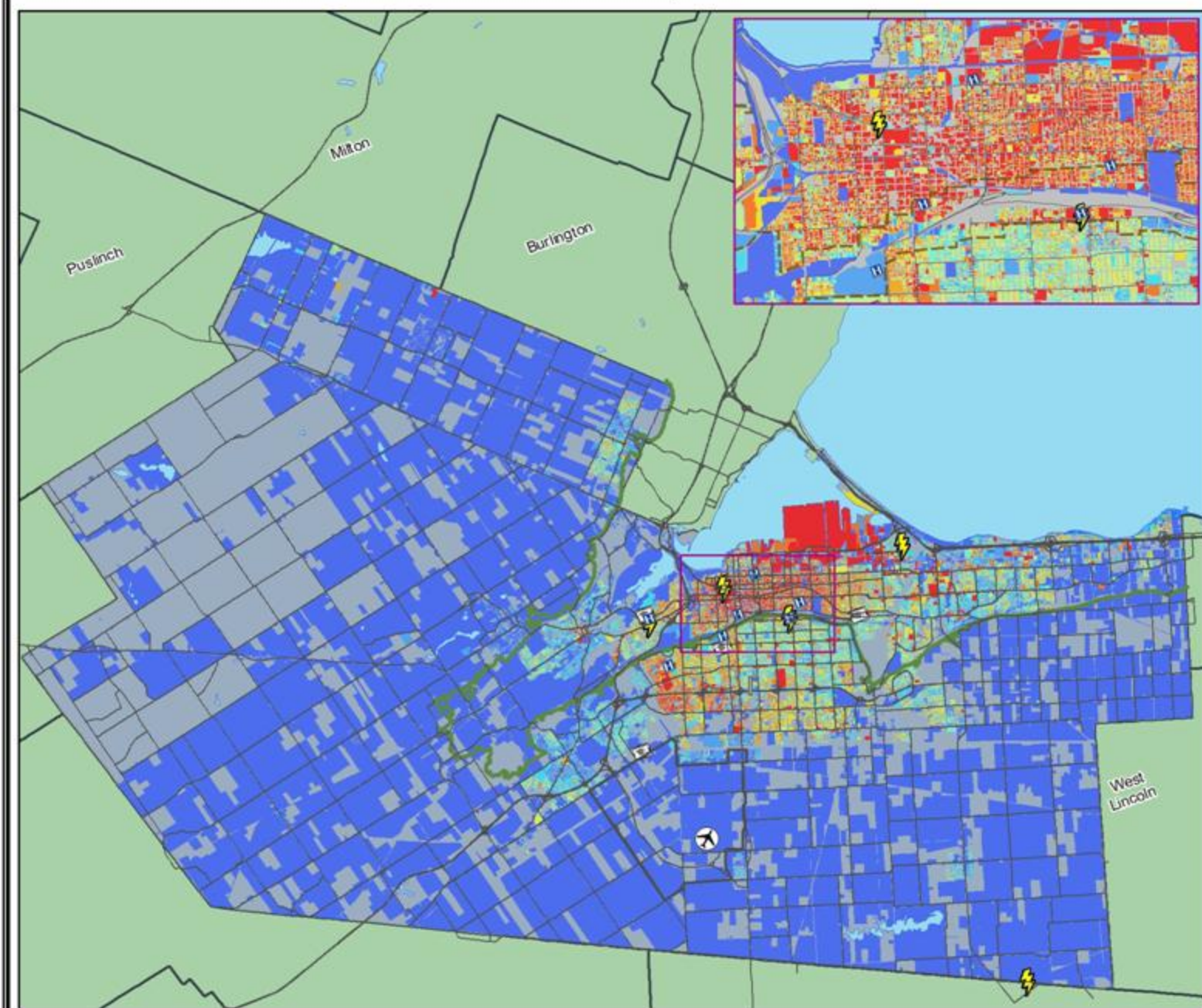

Integrated Energy Mapping for Ontario Communities
City of Hamilton

Map code: EN-001-V12
 Date created: December, 2010
 Geographic Coordinate System: UTM 17N
 Project Name: RAD 2008
 Scale (Map): 1:245,000
 Scale (Print Overview): 1:2,000,000
 Scale (Print Download): 1:80,000

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Buildings Energy Density 2008 City of Hamilton



Energy Density (GJ/ha)

- 0 - 700
- 701 - 1,500
- 1,501 - 2,100
- 2,101 - 2,500
- 2,501 - 2,900
- 2,901 - 3,400
- 3,401 - 3,900
- 3,901 - 4,700
- 4,701 - 6,300
- 6,301 - 17,000

Major Road
 Hospital
 College/University
 Community Energy Site
 Airport Area
 Escarpment
 Water Bodies
 Data not available

**Integrated Energy Mapping for Ontario Communities
City of Hamilton**

Map code: H-0314-03
 Date created: December, 2010
 Geographic Coordinate System: UTM 18N
 Projection: NAD 83
 Scale (Map): 1:240,000
 Scale (Street Overview): 1:2,000,000
 Scale (Street Detail): 1:60,000

Data source:
 Parcel File: City of Hamilton
 Structure Area: City of Hamilton
 Electricity: Hydro One
 Gas: Enbridge Gas

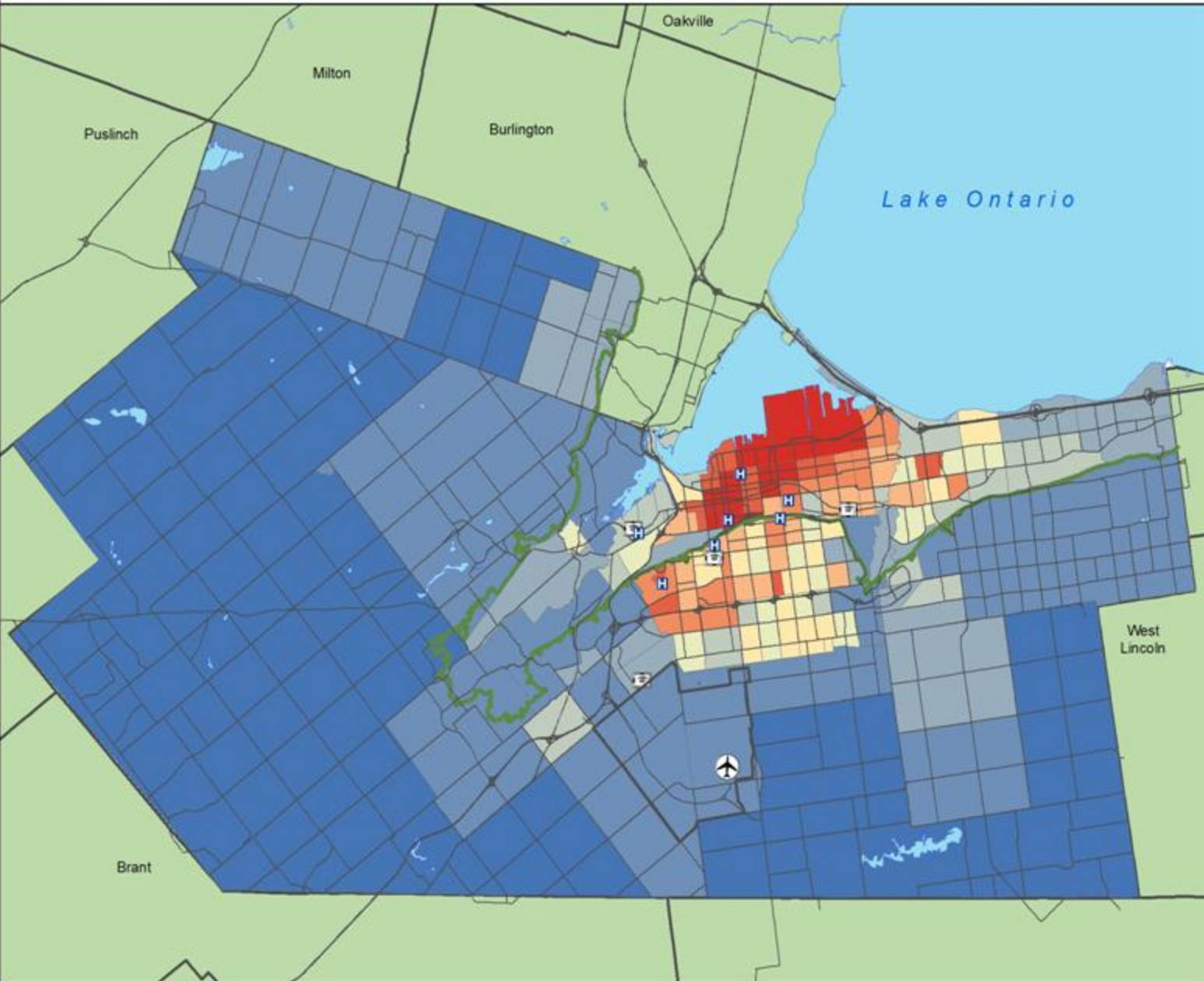
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0 2 4
 Kilometres

Buildings Energy Density 2031 - Business as Usual Scenario City of Hamilton

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Energy Density (GJ/ha)

- 0 - 25
- 26 - 600
- 601 - 1100
- 1101 - 1600
- 1601 - 2000
- 2001 - 2400
- 2401 - 2900
- 2901 - 3900
- 3901 - 6400
- 6401 - 15100

Major Road
 Hospital
 College/University
 Airport Area
 Escarpment
 Water Bodies



**Integrated Energy Mapping for Ontario Communities
City of Hamilton**

Date created: December 9, 2010
 Geographic Coordinate System: UTM 17N
 Projection: NAD 1983
 Scale (Main): 1:240,000
 Scale (Inset Overview): 1:2,000,000

Data sources:
 1 Parcel file: City of Hamilton
 2 Structure data: City of Hamilton
 3 Electricity consumption: Hamilton, Hydro One
 4 Gas consumption: Union Gas

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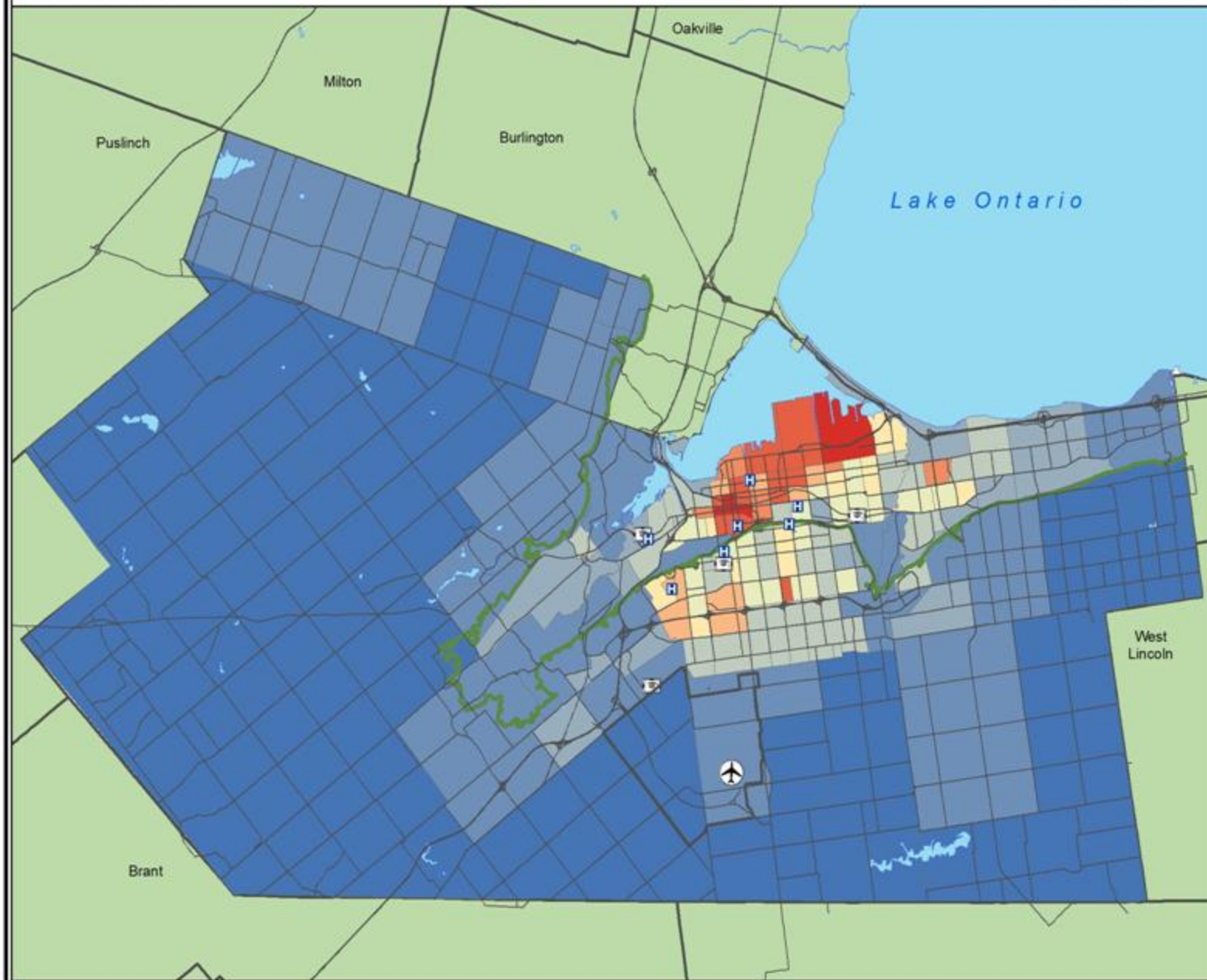


Buildings Energy Density 2031 - Ultra High Efficiency Scenario

City of Hamilton

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Energy Density (GJ/ha)

- 0 - 25
- 26 - 600
- 601 - 1020
- 1021 - 1565
- 1566 - 2000
- 2001 - 2400
- 2401 - 2900
- 2901 - 3900
- 3901 - 6400
- 6401 - 15100

- Major Road
- Hospital
- College/University
- Airport Area
- Escarpment
- Water Bodies



Integrated Energy Mapping for Ontario Communities

City of Hamilton

Date created: December 9, 2010
 Geographic Coordinate System: UTM 17N
 Projection: NAD 1983
 Scale (Main): 1:250,000
 Scale (Inset Overview): 1:2,000,000

Data sources:
 1 Parcel file: City of Hamilton
 2 Shoreline data: City of Hamilton
 3 Electricity consumption: Hamilton, Hydro One
 4 Gas consumption: Union Gas

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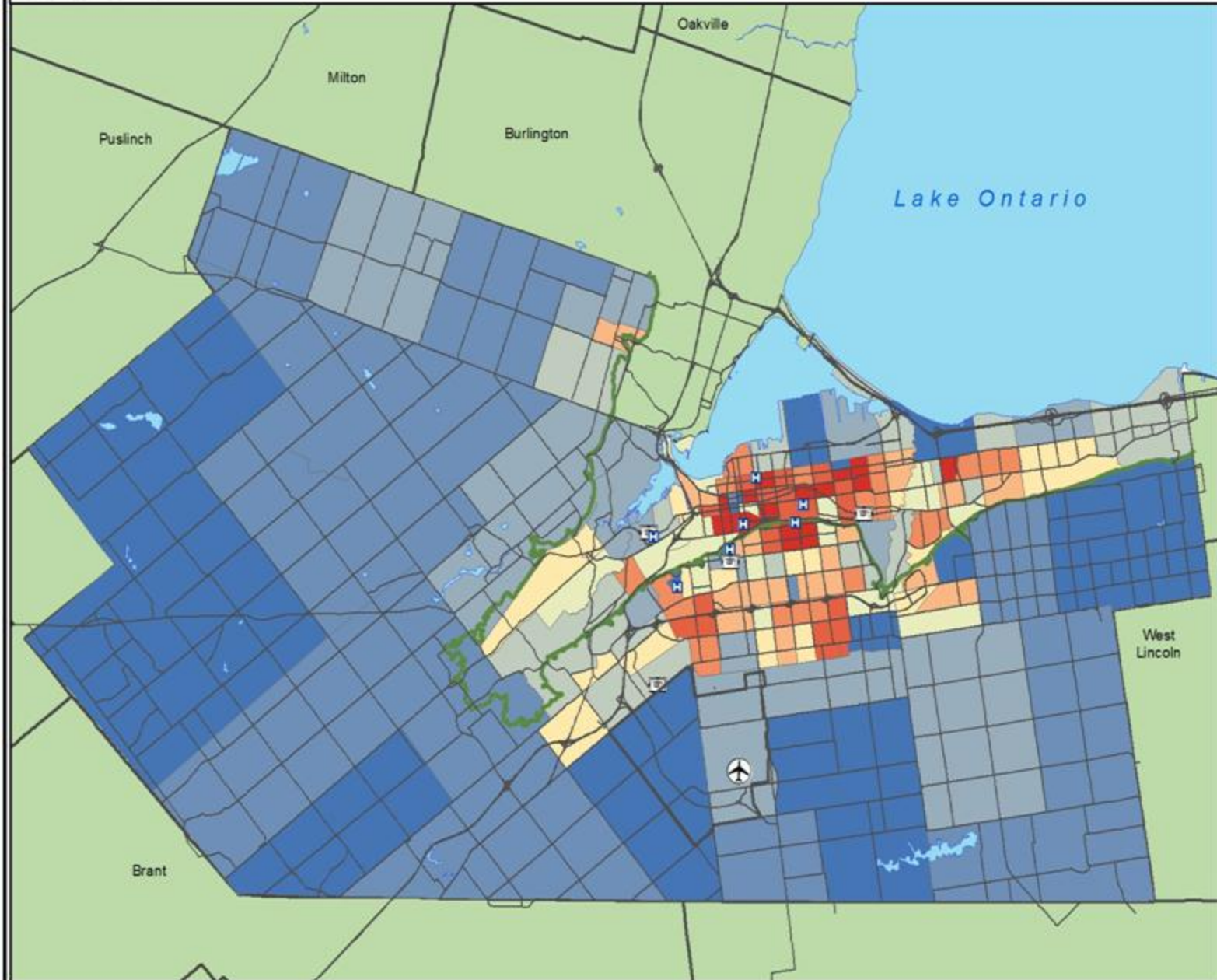


Transportation Energy Density 2001

City of Hamilton

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Energy Density (GJ/ha)

- 0 - 10
- 11 - 20
- 21 - 150
- 151 - 270
- 271 - 350
- 351 - 430
- 431 - 550
- 551 - 720
- 721 - 1,080
- 1,081 - 3,100

Major Road
 Hospital
 College/University
 Airport Area
 Escarpment
 Water Bodies



Integrated Energy Mapping for Ontario Communities
City of Hamilton

Date created: December 8, 2002
 Geographic Coordinate System: UTM17N
 Projection: UTM17N
 Scale (Main): 1:245,000
 Scale (Inset Overview): 1:2,000,000

DISCLAIMER:
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 © Transportation Data: Transportation Tomorrow Series

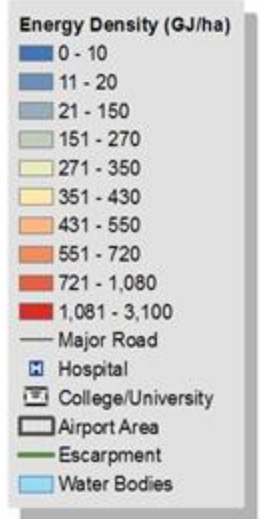
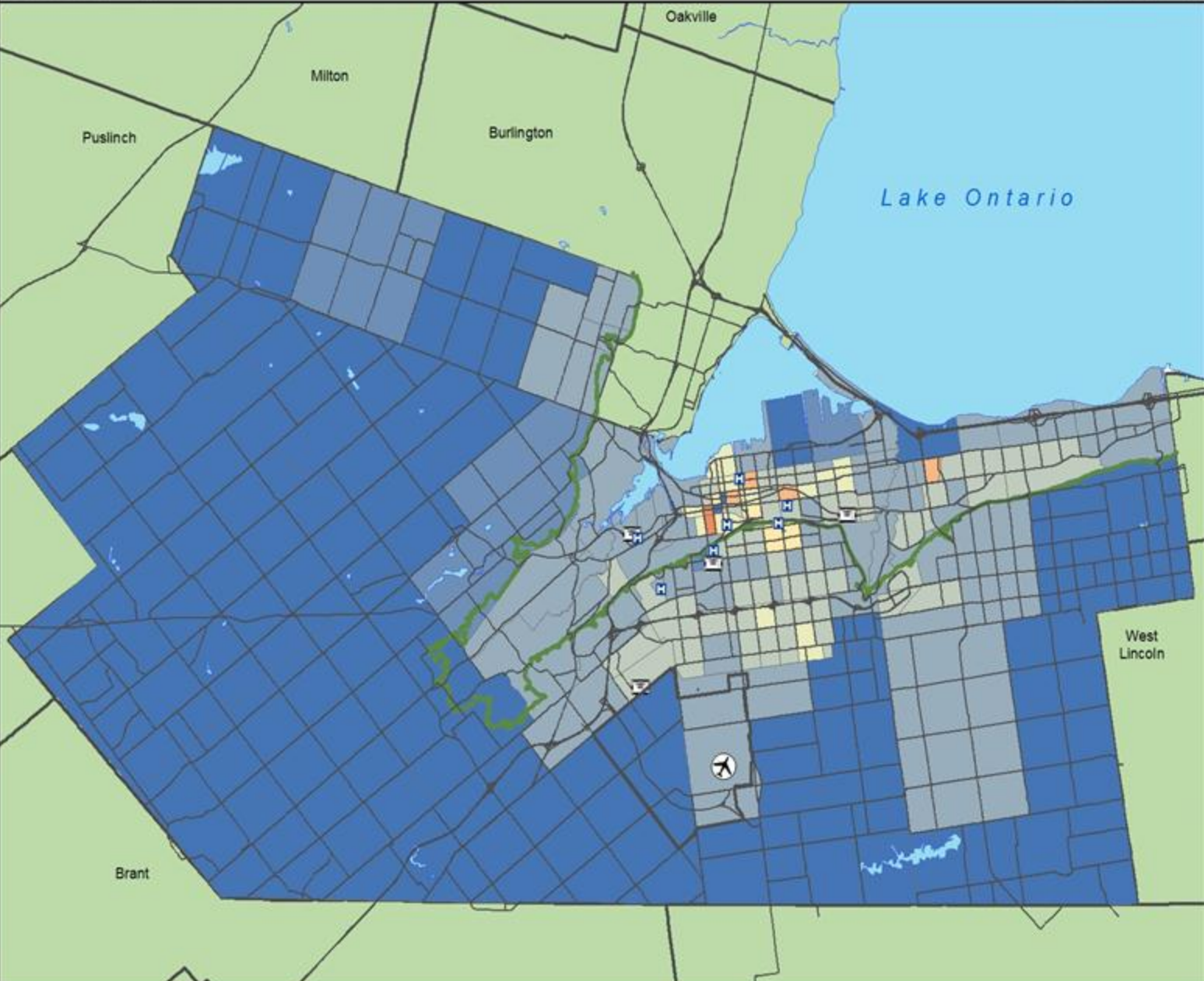
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Transportation Energy Density 2031 - Ultra High Efficiency Scenario City of Hamilton

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Integrated Energy Mapping for Ontario Communities
City of Hamilton

Date created: December 8, 2020
Geographic Coordinate System: UTM87N
Projection: NAD83
Scale (Map): 1:248,000
Scale (Web Overview): 1:1,000,000

Data sources:
1) Parcel File: City of Hamilton
2) Transportation data: Transportation Tomorrow Survey

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Next Steps

- Develop a collaborative community energy plan
- Develop projects (home retrofits to new district energy systems)

