

# LAND USE, BUILDINGS, AND BUILT FORM

## Climate Change and Land Use, Buildings and Built Form

Buildings and their construction account for 25% of Canada’s overall greenhouse gas emissions through the processing of new construction, combustion of fossil fuels to meet water and space-heating requirements and electrical consumption in lighting and air conditioning. Although development is required to accommodate population growth, there are opportunities to create compact land use patterns that integrate energy efficient buildings and are better prepared for potential impacts of climate change.

### Insights

- Hamilton’s population is expected to grow to 660,000 by 2031 (up 150,000 from 2001).
- The total value of building permits issued in 2012 was approximately \$1.5 billion.
- Climate change may lead to potential increases in the amounts of precipitation as well as the frequency of extreme weather events, including storms. Damage to buildings from weather can be caused by: storm damage; rain penetration; poor durability of construction materials; flood damage; and foundation movement. As a result, buildings will need to adapt to a changing climate.
- Energy efficient buildings, while limiting the growth of carbon dioxide emissions, can also improve indoor and outdoor air quality, improve social welfare and enhance energy security.
- There are opportunities to create compact growth in Hamilton given the need for downtown core rejuvenation and the significant brownfield lands potentially available for re-development.
- The City developed Corridor Planning Principles and Design Guidelines in 2012, providing planning and design directions for developing compact, mixed use urban environments that support transit and active transportation.
- Energy Mapping was undertaken by the City of Hamilton and Horizons Utilities to evaluate potential actions that would enable the municipality and community to reduce emissions.
- Higher density cities are more conducive to transit-use and car-free transportation, helping to eliminate the greatest generator of greenhouse gases.

#### Existing Land Use and Building Plans and Policies

- ✓ Provincial Policy Statement
- ✓ Growth Plan for the Greater Golden Horseshoe
- ✓ City of Hamilton Rural and Urban Official Plan
- ✓ City of Hamilton Zoning By-Law
- ✓ Growth Related Integrated Development Strategy
- ✓ City of Hamilton’s Environmental Remediation and Site Enhancement Community Improvement Plan
- ✓ Hamilton LEEDING the Way Community Improvement Plan
- ✓ City of Hamilton’s Neighbourhood Development Strategy
- ✓ Corridor Planning Principles and Design Guidelines, 2012
- ✓ City of Hamilton: Integrated Energy Mapping Strategy, 2011

### Discussion Questions

- What impacts or risks from climate change do we face in relation to land use and the built form?
- Who or what is most vulnerable to the impacts of climate change from a land use and built form perspective?
- What opportunities present themselves from a land use and built form perspective from climate change?