

# Community Energy Planning

## Mayors Tower Renewal

What Toronto needs to achieve energy goals



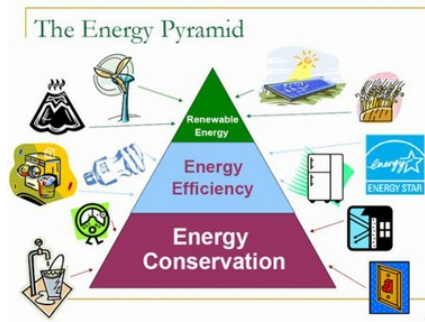
# Why do Community Energy Planning

- Energy planning supports community enrichment;
  - GHG reduction
  - Local job creation
  - Money is retained in the community
  - Energy security
  - Growth



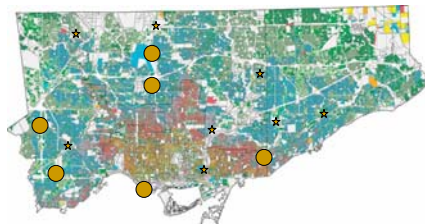
## How does CEP reduce GHG

- Makes possible effective reductions in fossil fuel use
  - Renewable energy
  - Clean energy
  - Efficient use of energy
  - Avoid using energy



## Current projects

- Mayors Tower Renewal
- Downsview
- Lawrence Heights
- Exhibition Place
- West District
- St. Lawrence Market
- Solar Neighbourhoods



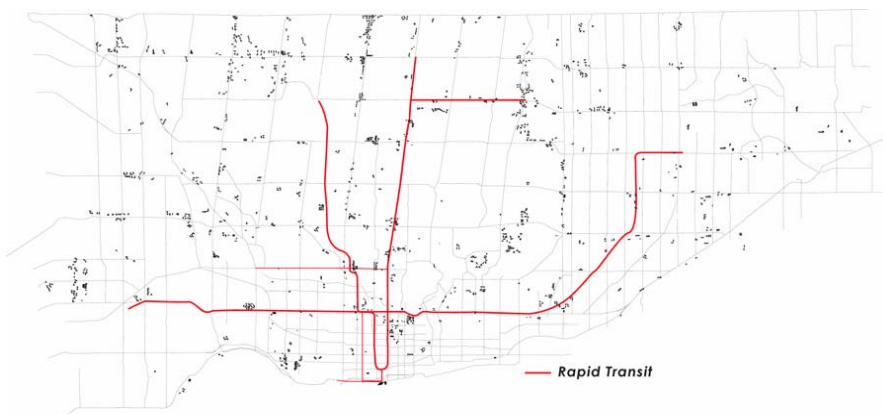
## Community Energy Planning

- City wide need
- Manageable Pieces
- Co-ordinate
- Use Energy Zones



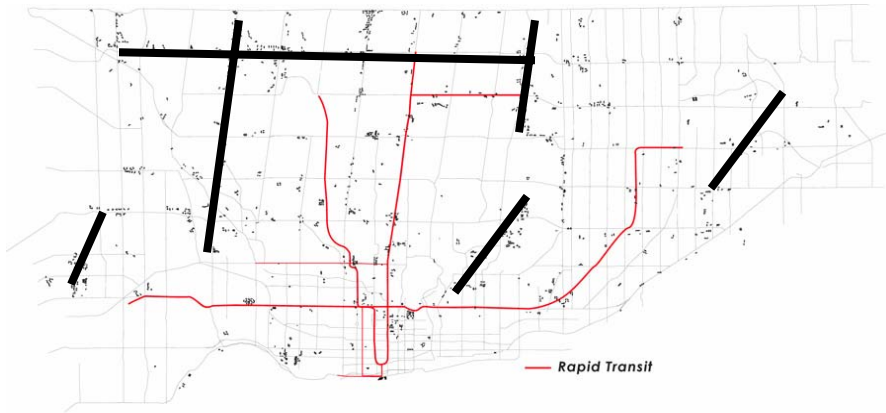
## Towers as Linking Branches

- Towers are distributed throughout City



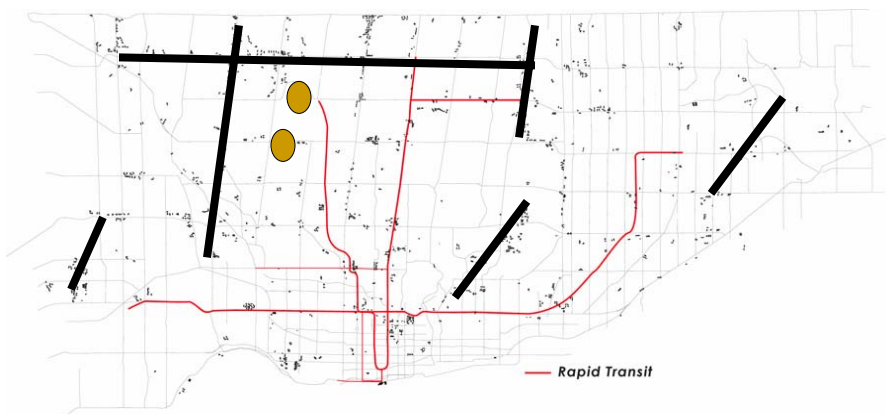
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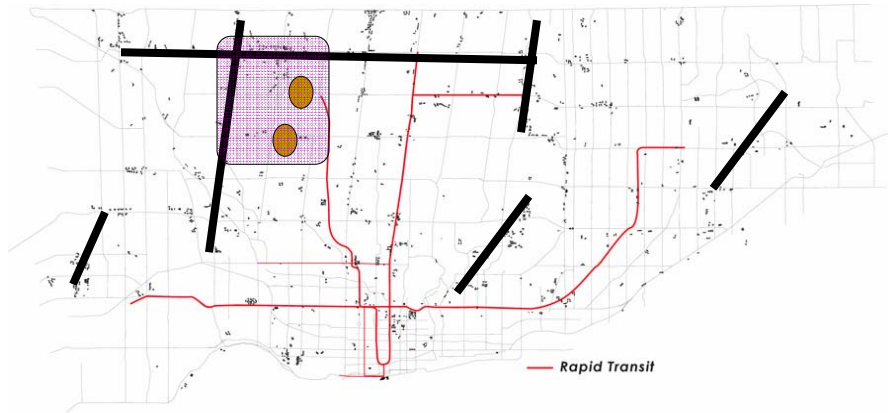
## Towers as Linking Branches

- Towers are near major development area

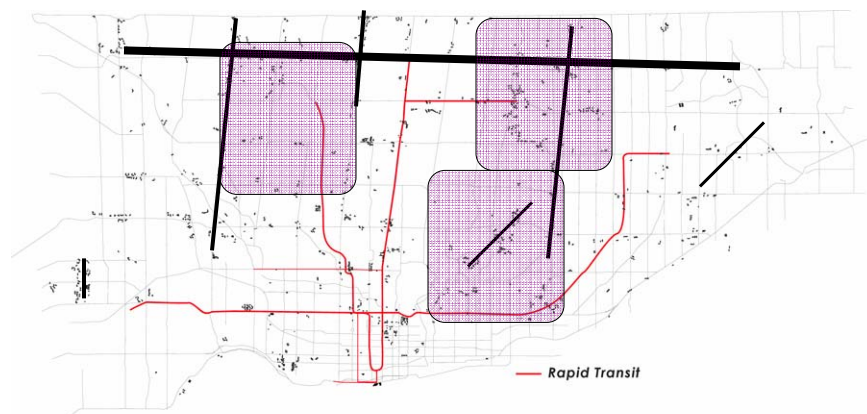


## Towers as Linking Branches

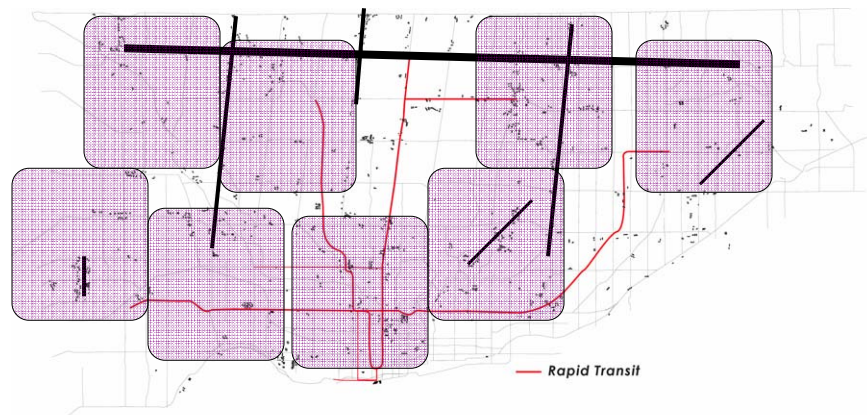
- Opportunities to bring energy improvements into surrounding neighbourhoods



## Towers as Linking Branches



## Towers as Linking Branches



## Community Energy Planning Steps

- Current Energy Use picture
- Analyze Projected Energy Demands
- Determine and evaluate opportunities
- Establish preferred action
- Implement

## Case Study

- Looked at an example where there are 4 existing buildings



## Case Study

- What if new buildings were added to the site?



## Case Study

- What if new buildings were added to the site?
- Could the site use the same amount of energy?



## Case Study

- For the new Buildings:
- can be upgraded for under \$5 per square foot
- measures that reduce energy 25% - 30% below current Code requirements
- more insulation, higher performance windows, heat recovery on ventilation, high efficiency condensing boilers and lighting controls
- payback period for these upgrades is less than 7 years, and yields a return on investment of approximately 27%.

## Case Study

- For the Existing Buildings:
  - A comprehensive retrofit of a typical 20-storey tower building was found to yield payback periods in the range of 10 to 12 years
  - 50% reduction in energy consumption
  - return on investment for a comprehensive retrofit ranges from 13% to 17%, depending on the forecast price escalation rate for energy.



## Case Study

- The answer is yes
- You can almost double the number of units and not increase the site's energy use.



## Community Energy Planning

- Look beyond individual buildings
- Find and use opportunities on a community scale
- Achieve Energy, Environmental and Economic goals

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