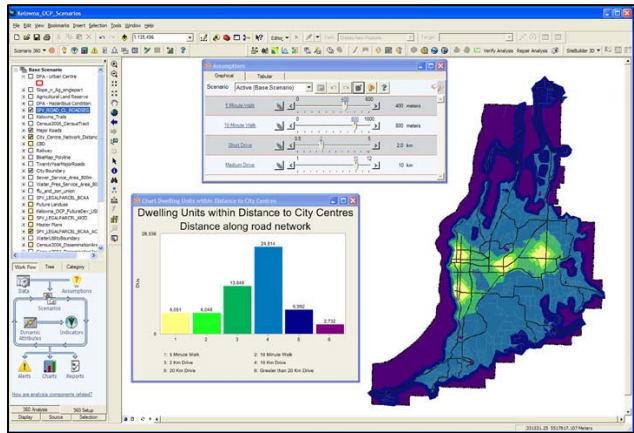


Official Community Plan

Comprehensive planning for a sustainable metro region

Location: City of Kelowna, British Columbia, Canada

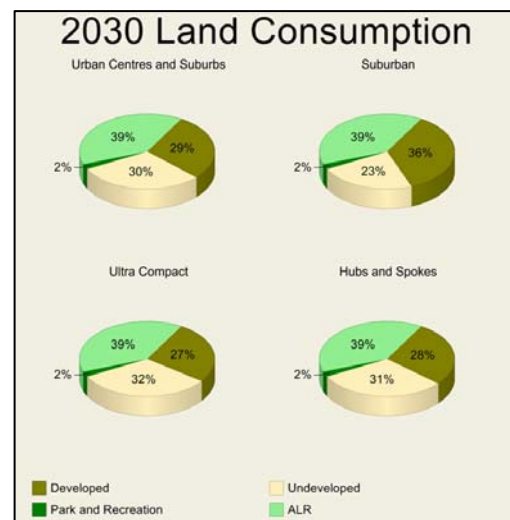
Partners: Urban Systems Ltd.; Placeways, LLC



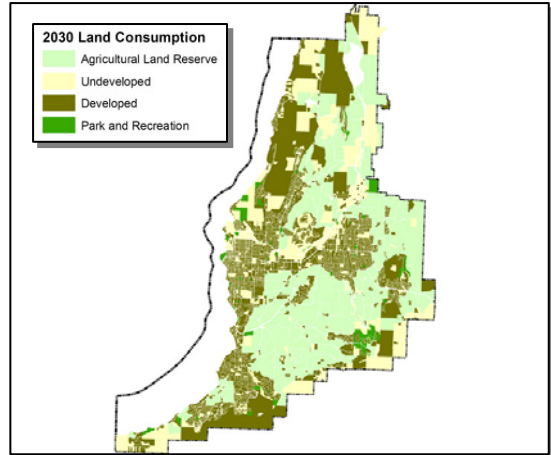
Context: The City of Kelowna is the largest in British Columbia's Okanagan Valley, with a population of over 100,000 residents. Kelowna is considered one of the most livable cities in Canada, with summer high temperatures averaging 81°F, winter lows averaging 18°F, and over 2,000 hours of sunshine every year. With such a favorable climate, it is easy to understand how the City has growth expectations of more than 40,000 people over the next 20 years. This growth projection inspired the city to look at a new comprehensive planning study that pays particular attention to sustainability indicators.

Project Description: The city contracted with Urban Systems and Placeways to support the planning process with scenarios built in CommunityViz. Their work included several innovative analysis approaches demonstrating the flexibility of CommunityViz. The team started by developing an area profile, which included an overview of the City and its planning challenges. City staff provided good data for most baseline information. The team used tax parcels as the primary land-use polygon layer, but for parts of the analysis they worked with geographic sectors of the City and some smaller parcel collections called potential growth areas (PGAs).

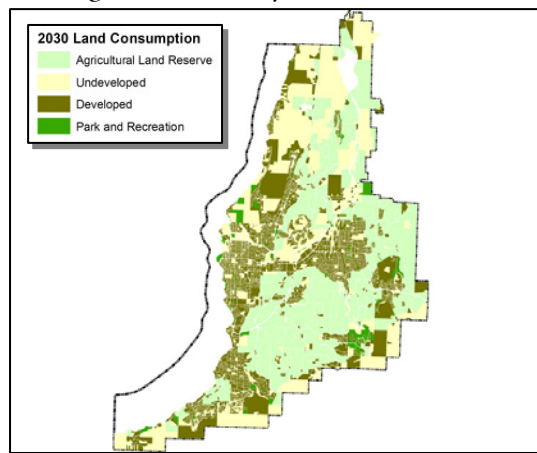
Four contrasting scenarios were selected for development in CommunityViz®: Urban Centres and Suburbs (using existing future land use plan from the 2020 Official Community Plan), Suburban Development (including all pending development requests which were concentrated outward from the city center), Hubs and Spokes (using growth boundaries and phasing, with more growth in urban and village centers) and Ultra Compact (preventing any growth from occurring in outlying areas). These scenarios were created by using an input spreadsheet, which gave planners more control over allocating specific amounts of new and potential growth to different geographic sectors. The spreadsheet was then brought into CommunityViz using External Table Links. The numbers from the spreadsheet were used as inputs to determine how much residential growth would be placed in each sector and growth area, then the Scenario 360™ Allocator was used to assign this growth to particular parcels. The Allocator allowed the team to set up and employ scenario-specific assumptions about the mix of housing types, the rules for growth outside of potential growth areas, and the possibility of mixed-use residential redevelopment to determine the required residential capacity of each parcel for each scenario.



Once the scenarios were built, the impacts could be analyzed. One of the first questions was how much land would be consumed in each scenario. Another important set of indicators measured access to a variety of commercial facilities, such as major transit, commercial services such as retail and offices, and institutional buildings such as schools and museums. For these measurements, the team used the ArcGIS Network Analyst extension to calculate 5, 10, and 15 minute walking times around the destinations and transit stops in each scenario. Then they built a Scenario 360 model that estimated the likely reduction in daily trips by households that might choose to walk to nearby destinations or use transit instead of driving. By applying those assumptions to their calculations of auto emissions, they were also able to estimate the effect of trip reductions on auto emissions.



The City's population forecast specified not only total population, but also the demand for various types of housing. Because of demographic and market shifts, a variety of housing types would be needed, from single family to townhouses, to apartments to retirement complexes. Planners knew that it was important to match the details of the housing supply to the details of housing demand. They were concerned that an insufficient stock of single-family homes within the City



limits would cause young families to locate outside of the City boundaries and to commute long distances to work in the City's employment centers. That pattern would exacerbate traffic and air pollution problems as well as segregate the population. To help the City's planners study the mix of housing types, the team built additional indicators and assumptions into the analysis that allowed planners to monitor future residential capacity and the mix of single-family and multi-family units by scenario.

Technology and Tools: CommunityViz Scenario 360 including External Table Links and Allocator; ArcGIS with the Network Analyst extension, and Microsoft Excel

Outcomes: The CommunityViz scenarios and analysis were used during several stages of Kelowna's effective OCP process, both by elected officials and by the public and as content for posters and displays during public workshops and open houses. At the time of this writing, the process was ongoing. The project demonstrated the successful use of CommunityViz to analyze, visualize, and communicate ideas.

KEY LINKS

CommunityViz
<http://www.placeways.com/communityviz>
 Placeways, LLC
<http://www.placeways.com>
 Urban Systems Ltd.
<http://www.urban-systems.com>
 City of Kelowna
<http://www.kelowna.ca>