**OVERVIEW**

The purpose of the report is to provide a high-level summary of several growth scenarios and create a framework for discussions about how and where Lincoln should grow over the next 30 years.

This report answers the following questions:

- **How many households will Lincoln add by 2050?**
- **Where could new growth be located?**
- **How much land is needed to accommodate new growth?**
- **What factors need to be considered when discussing how we grow?**

This summary is a preview of the complete growth scenarios report that will be released in Fall 2020. The full report will include specific land use designations, a more detailed discussion about infill opportunities, costs, and a recommended growth scenario for Plan Forward. The public input we receive on this summary will help inform our analysis in the full report later this year.

The timeline for the growth scenarios and land use plan process is below:

- **July:** Publish Growth Scenarios Summary Report (this document).
- **July – August 31:** Launch Virtual Public Event and Survey that includes public input activities related to growth scenarios.
- **July – August 21:** Request specific land use proposals from developers, land owners, and interested stakeholders.
- **Fall 2020:** Publish Growth Scenarios Report which includes draft recommended scenario and land use plan for public review. The draft recommended scenario may be the further development of a scenario in this report or a combination of multiple scenarios.

Visit planforward2050.com for more information about the Comprehensive Plan schedule.

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**How many households will Lincoln add by 2050?**

**DEMOGRAPHIC PROJECTIONS**

The foundation of planning for future growth begins with reliable population and housing projections. The Planning Department contracted with the UNO Center for Public Affairs Research (CPAR) to develop demographic projections for Lancaster County through the year 2050. CPAR was also utilized during the last Comprehensive Plan update in 2010 (LPPlan 2040), and CPAR’s methodology has proven to be a reliable source for planning future growth in the county. In addition, over the past several decades, Lancaster County has shown remarkably consistent growth that is expected to continue for the foreseeable future. This reliability helps add confidence to projection models.

A few highlights from CPAR’s projections:

- **Lincoln Population:** 397,529 by 2050, an increase of 107,323 between 2020 and 2050. For Lancaster County, a total population of 439,258, an increase of 118,588.
- **Lincoln Households:** 165,475 by 2050, an increase of 48,082 between 2020 and 2050. For Lancaster County, 182,845 total households, an increase of 53,129.
- **Household Size:** 2.36 persons per household in 2020, decreasing to 2.30 by 2050. This reflects the national trend of both a growing aging population and a young population that waits longer to start families (thus having smaller families).
- **Age:** The population age 65 and above increasing from 45,600 (14.2 percent of total) in 2020 to 74,900 (17 percent of total) in 2050.
- **Diversity:** Minority population increasing from 20.5 percent of the county’s total today to 35.3 percent in 2050.

These numbers show that Lincoln will need to accommodate approximately 50,000 new housing units, or 1,650 units per year over 30 years. The trend towards smaller household sizes suggests that over the next 30 years there may be a desire for more small housing types, which in turn could mean a higher density of development.

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Where could new growth be located?

**POTENTIAL GROWTH AREAS**

Lincoln’s growth is primarily guided by urban infrastructure availability, most importantly, the availability of gravity sewer. Lincoln utilizes gravity sewer, which is dependent on topography, as sewer trunk lines are provided to basins that naturally drain into the existing system. Given the inherent stability of gravity as a force of nature, gravity sewer provides for an efficient and reliable wastewater system. Utilizing a gravity sewer system has been Lincoln’s growth policy for years and that policy is assumed to continue in the future.

The Future Service Limit is the area where urban infrastructure is planned to be provided by 2040. The areas identified below in purple are located beyond the existing Future Service Limit and are sewerable by gravity. The locations are based on discussions with Lincoln Transportation and Utilities (LTU) and identify the next tier of sewerable land based on collection and treatment capacity.

None of the scenarios presented in this report would utilize all of the purple areas on the map shown below. The areas are presented as a starting point for discussion about where growth could go, and it’s possible that the public input process may identify additional growth locations that could be incorporated into the recommended scenario.

With each scenario it is assumed that areas within the existing Future Service Limit (the 2040 limit) will be served first; these new areas would primarily be needed to serve the additional growth increment between 2040 and 2050.

**DEVELOPABLE AREA**

Listed within each location are the total land area and the developable land area. The “developable” designation is an attempt to identify land that can actually be developed. It excludes areas that will likely not be converted to urban uses including drainage ways, acreages, easements, and public and quasi-public land (beltway protection areas, substations, etc). To put another way, developable land focuses on land that is currently in agriculture use or vacant, and is most likely to be the area developed for urban uses.

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**TOTAL AREA**

27.3 sq mi

**DEVELOPABLE AREA**

15.5 sq mi
AREA 1
Total Area: 1.0 sq mi
Developable Area: 0.9 sq mi
Notes: The adjacent land uses within the existing Future Service Limit are identified as industrial. Outside of a small segment of floodplain, nearly this entire area is developable.

AREA 2
Total Area: 0.6 sq mi
Developable Area: 0.5 sq mi
Notes: The future land uses identified directly to the south are industrial (southwest) and residential (southeast).

AREA 3
Total Area: 2.4 sq mi
Developable Area: 1.6 sq mi
Notes: The map includes the conceptual east beltway alignment. There is currently no funding allocated to get the east beltway constructed by 2050. Trunk sewer is already on the east side of Stevens Creek in this location, but getting water and urban arterials across the creek would be a significant cost. Adams Street would likely need a bridge built at a 100-year flood standard.

The large expanse of Stevens Creek floodplain (up to a 1/2 mile wide in some locations) would create a significant non-developable mass between this area and the existing city.

AREA 4
Total Area: 2.6 sq mi
Developable Area: 1.1 sq mi
Notes: In this location sewer, water, and arterial streets would need to cross Stevens Creek, which would add a significant expense.
AREA 5
Total Area: 5.5 sq mi
Developable Area: 3.0 sq mi
Notes: The map includes the conceptual east beltway alignment. There is currently no funding allocated to get the east beltway constructed by 2050.

These areas represent an extension of the Stevens Creek trunk sewer line that was recently constructed to the north.

In recent decades housing demand has been strongest in the south and east of Lincoln. Both of these areas would open up significant amounts of land in a location with strong demand.

AREA 6
Total Area: 7.3 sq mi
Developable Area: 3.8 sq mi
Notes: Given the existing sewer location, Area 5 would need to be served prior to serving Area 6.

AREA 7
Total Area: 2.8 sq mi
Developable Area: 2.1 sq mi
Notes: Sewer would be provided from the west, so Area 8 would be served prior to Area 7.

South Lincoln has seen significant demand in recent decades and that demand is expected to continue.

AREA 8
Total Area: 3.1 sq mi
Developable Area: 1.5 sq mi
Notes: The southern limit is Roca’s planning jurisdiction and roughly corresponds to a basin boundary. There is significant non-developable area to the west with the floodplain.
**AREA 9**
Total Area: 0.8 sq mi
Developable Area: 0.2 sq mi
Notes: These areas would be a continuation of recent urban development west of Wilderness Park and would build on the infrastructure investments in the area.

**AREA 10**
Total Area: 0.9 sq mi
Developable Area: 0.6 sq mi
Notes: A new trunk sewer line along Old Cheney will provide for significant new development opportunities directly east of this area over the next few years.

**AREA 11**
Total Area: 0.4 sq mi
Developable Area: 0.3 sq mi
Notes: A new trunk sewer line would need to be extended from West O Street to serve this area. The areas directly to the east, and within the 2040 future service limit, are in a different drainage basin.

This area would provide additional development land near the new LPS high school.
How much land is needed to accommodate new growth?

RECENT DEVELOPMENT TRENDS
When developing growth scenarios for the next 30 years, a good starting point is to look at growth trends from recent years.

Some highlights:

- Overall residential density for approvals in edge growth areas over the past 10 years is 4.0 units per acre. This includes neighborhoods and associated uses such as streets, outlot/detention areas, schools, religious institutions, and some small-scale neighborhood commercial uses. It does not include commercial centers, industrial uses, and major drainageways. LPlan 2040 assumed an edge residential density of 3.0 units per acre for new edge growth.

- The greater amount of edge density seen of over the past 10 years can largely be attributed to an increase in multi-family development.

- After seeing very little infill development in the immediate post-recession years of the early 2010’s, infill has significantly increased over the past five years. Since 2015, Lincoln has seen an average of 381 new infill units per year, exceeding the LPlan 2040 assumption of 333 infill units per year.

View the 2020 Residential Land Inventory Report at planforward2050.com
ASSUMPTIONS
Several criteria and assumptions are included for all scenarios:

- **Residential:** The residential density figures are for residential and associated uses only. Items included within the residential category include non-residential neighborhood uses such as neighborhood parks, trails, schools, and churches. The density number also includes streets and rights-of-way. Commercial and Industrial uses are calculated separately.

- **Commercial:** Existing fringe areas of Lincoln were analyzed in order to determine the amount of commercial needed for a typical square mile of suburban development. For purposes of these scenarios, 80 acres (0.13 sq mi) of commercial were assumed for every square mile of residential development, which generally aligns with how development has occurred in Lincoln over recent decades. This assumption would need to be re-evaluated if significantly higher edge density were assumed (5+ units per acre), but it is reasonable given the densities included in these scenarios.

- **Industrial:** The existing ratio of industrial land per county resident was extended out to 2050. All scenarios assume an addition of 1.9 square miles of new industrial land.

- **Development Cushion:** A cushion of 10 years is added to each scenario, meaning that enough land is provided to satisfy demand through 2060 based on our population projections. This “extra” land is included in order to provide flexibility for development options within the Future Service Limit.

- **The existing 2040 Future Service Limit will be developed prior to the new 2050 areas.** The total area needed is in addition to existing available land within the Future Service Limit.

- **LPlan 2040 supports growth and development in all quadrants of the City and this general policy is expected to continue.**

DEVELOPMENT COSTS
Detailed public infrastructure costs will be included in the complete Growth Scenarios Report to be released this Fall. For purposes of this summary report, it’s important to understand the connection between developed land area and infrastructure costs. The Future Service Limit is the area where urban infrastructure is planned to be provided. An expansion of the Future Service Limit means that sewer, water, and streets, along with other services like fire and police, need to be extended to serve that area. The costs to construct new infrastructure are shared between the City and developer, but the cost to maintain that infrastructure in perpetuity is solely the responsibility of the City.

A typical square mile of suburban development has approximately 12 miles of local streets. These would typically be built by the developer but must be maintained by the City.

One mile of a new two-lane arterial street costs roughly $13 million to construct.

Sewer and water costs vary significantly based on locations of existing infrastructure and drainage basins. The existing six-year Capital Improvement Program (CIP) has $36 million allocated for new growth wastewater projects. This includes items such as trunk lines, sub basin extensions, and capacity improvements for wastewater treatment facilities. Water costs are allocated differently but are similar in magnitude to sewer costs. Water growth projects include items such as new mains, meters, wells, and treatment. These infrastructure costs will be considered when determining a preferred scenario.

Lincoln needs to add approximately 50,000 households over the next 30 years, and the amount of land area added to accommodate that growth has significant cost implications both for constructing new infrastructure and ongoing citywide maintenance obligations. See the discussion later in this report for more information about the implications of different types of growth.

HOW THE SCENARIOS WERE SELECTED
These scenarios were selected to support our ongoing discussions. The intent was to focus on three scenarios that generally reflect current trends and demographic projections, and appear to have a realistic chance of implementation. We did not include a “very low” density scenario because it is unlikely that over the next 30 years the market will demand a density significantly lower than what we have today. Likewise, we did not include a “very high” density scenario for the same reasons.
This scenario assumes that recent trends will continue, with 22 percent of new dwelling units as infill, and 4.0 units per residential acre for edge growth. Since 2010, the market trends for new approvals in edge developments have shown an increased mix of multi-family and attached single-family/duplex to go along with traditional detached single-family housing. This scenario, as reflected by current trends, does not assume that large-lot single-family housing would go away. Rather, a higher density is achieved by the mix of other housing types that are incorporated into predominantly detached single-family housing developments.

This scenario assumes that demand for a mix of housing types will continue over the next 30 years. Given the projected demographic shifts for our community, particularly our increasingly aging population and smaller household sizes, it is reasonable to assume that demand will continue for housing options beyond traditional detached single-family.

Infill: 22 percent  
Edge Density: 4.0 residential units per acre  
Total New Land Area Needed: 8.6 sq mi

Implementation: This scenario would require general continuance of existing city policies regarding growth and infill. It’s important to note that the City is challenged to fully fund its infrastructure construction and maintenance obligations in the current situation, and it’s expected that those challenges would continue with both Scenarios A and B.

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CHARACTERISTICS OF INFILL

Infill is any development or redevelopment within the existing developed city. Infill occurs on underdeveloped parcels, which in most cases are former commercial sites that are no longer viable. There are many potential infill redevelopment sites in Lincoln today, and given the continued evolution of retail and office space, it is expected that more commercial sites will be available for redevelopment opportunities over the next 30 years. Other types of sites that could be candidates for redevelopment include oddly-shaped parcels, LPS-owned property that was not selected as a school location, golf courses, public or quasi-public excess land, blighted property, and other miscellaneous parcels throughout Lincoln that are vacant for a variety of reasons.

In almost all cases infill has a higher residential density than edge growth. This is due to the inherent space limitations of redeveloping a site surrounded by existing urban development. In terms of residential unit types, most recent infill projects in Lincoln have been multi-family, often including limited commercial elements. There have also been examples of infill projects that include attached and detached single-family housing on smaller lots, at a much higher density than typical edge development.

Infill development can accommodate various types of commercial uses. Projects with mixed-use buildings typically incorporate a commercial element on the first floor. Large-scale commercial centers are also possible on certain infill sites, a recent example being Costco and the associated commercial pads at 14th and Pine Lake.

CHARACTERISTICS OF EDGE GROWTH

Edge growth is any new development on the outskirts of the city. It is typically annexed upon approval of development plans so that urban infrastructure can be provided to the site. Most of Lincoln’s new housing construction occurs in edge growth areas.

Many new edge growth developments incorporate a mix of housing types. A common development plan includes detached single-family units, attached single-family/duplex units, and an area reserved for multi-family. Over the past ten years, approximately 44 percent of new homes in edge growth areas have been detached single-family, 38 percent multi-family, and 17 percent attached single-family/duplex.

Edge growth allows for significant flexibility on commercial and industrial site design. It also allows for a mix of uses over a large area to be planned for at once, rather than piece-by-piece.
BENEFITS AND CHALLENGES

A mix of edge growth and infill is expected to continue. This report and the Comprehensive Plan process will consider what the expected balance of both growth types should be. The following discussion summarizes big picture challenges and benefits to both infill and edge growth. These factors were determined based on staff input, members of the Comprehensive Plan Community Committee, and survey/open house responses from the general public.

City Infrastructure and Services

**Infill**

- **Utilization of existing infrastructure is the primary benefit of infill development.** With edge growth new infrastructure must be extended, which can be a significant cost shared by both the city and developer, and then must be maintained in perpetuity, which is the responsibility of the city. With infill projects, new development can occur while utilizing the existing investment in surrounding infrastructure, although in some cases infrastructure upgrades are necessary.

  In our first visioning survey for Plan Forward 2050, survey respondents identified street maintenance as one of the top items that needed improvement. One challenge with street maintenance is that new streets are continuously being added to the system. **Increased infill would allow the community to grow our population and tax base while focusing city funds on maintaining what we already have, rather than spending money constructing and maintaining new streets.**

  This same logic applies to other city services and facilities as well. The city can grow without adding to the service area of Fire, EMS, and Police, and mitigate the need to build new emergency services stations (however, new personnel and equipment would still be needed). Existing facilities such as parks, trails, and libraries can be utilized, and additional users could lead to enhancements for these facilities.

- **Some infrastructure enhancements would still be needed with large infill projects.** In some cases, water or sewer lines in existing urban areas would need to be replaced. Power lines may need to be reconfigured, and in some cases transformer station upgrades would be needed. New traffic lanes and turn lanes may be needed as well. These upgrades for infill would typically be less expensive than for new construction in edge developments.

**Edge Growth**

- **Edge growth projects require investments in new infrastructure, which can be a significant cost shared by both the City and developer, and infrastructure must be maintained in perpetuity, which is the responsibility of the City.**

  Funding for road and bridge projects can be complicated when there are rural roads and bridges that will soon be within city jurisdiction.

  **Emergency services would need to expand their service areas, which could impact response times.** Over time, new service stations would need to be added in order to serve the additional land.

The expansive parking lots at Gateway Mall provide a redevelopment opportunity near existing infrastructure, jobs, and services.

The manner of Lincoln’s growth has significant financial and quality of life implications for the community. These factors are to be considered when determining the ratio of infill to edge growth for the recommended growth scenario.
Transportation

Infill

- Infill supports multiple modes of transportation. Transit becomes more effective at higher densities, and increased infill development would create increased demand for more riders along existing routes. In addition, trail and on-street bicycle facility investments become more practical with more users.

- In general, there would be less distance between housing and jobs/services. This would benefit all residents by reducing system-wide lane miles traveled: fewer drivers would need to make an “across town” commute, and people taking short trips would be more likely to use other modes of transportation, which would decrease added strain on the street network.

Edge Growth

- Edge growth could contribute to the further separation of housing and jobs/services, creating longer commutes, more traffic, and all but requiring that more people use an automobile to navigate the city. Autonomous vehicles and other emerging technologies could have an impact on commuting over the next 30 years, but it’s difficult to speculate about what that impact will be.

- A dispersed population makes it difficult to maintain an efficient and cost-effective transit system as buses need to travel longer distances to serve comparatively fewer people in each given area.

Community Character

Infill

- Over time, policies that incentivize infill would lead to redevelopment of underutilized properties (vacant lots, aging/poor quality buildings, etc) as these areas would become more desirable to the development community. This is especially relevant given the changing nature of retail and the expectation that commercial centers will experience increased vacancy as time goes on. There would also be more incentive to redevelop and re-use historic or otherwise significant buildings in the community that are underutilized today.

- There could be more pressure to redevelop existing green space within city.

- Redevelopment can have a significant impact on the character of an existing area, and these types of projects create the potential for conflict with neighbors. Although most redevelopment projects result in a net-positive impact for the surrounding area, care would need to be taken to ensure that these projects are appropriately-placed to reduce any perceived negative impact on neighbors.

- Infill projects can add to the diversity of architecture in established areas.

- Higher density projects in general, which often come in the form of infill, can help build on our existing sense of community, fostering the type of human connections that become possible with daily casual interaction.

Edge Growth

- Edge growth can remove investment dollars from the existing city, contributing to the deterioration of existing areas.

- Lincoln has many great neighborhoods, and each reflects the era in which it was developed. Edge development allows for the creation of new neighborhoods which reflect the current times and add to the diversity of our community’s built environment.

- Additional edge development can contribute to an increase in urban/rural tension. Many county residents are concerned that the continuing physical growth of Lincoln could ruin the character of rural Lancaster County.

- New parks, trails, libraries, LPD/LFR facilities, etc would need to be built in order to maintain the same level of community services for new growth areas.

New homes with a modern interpretation of traditional style.
Environment/Sustainability

Infill

- Increased infill would help Lincoln become a more sustainable community due to variety of factors, some of which have already been discussed: less vehicle miles traveled would reduce our reliance on fossil fuels and improve local air quality, existing underutilized buildings or sites could be reused rather than using resources to construct new buildings, environmentally sensitive areas at the city fringe would be under less development pressure, and more infill would typically mean more multi-family housing, which in general has a smaller impact on the environment than detached single family housing.

- Increased infill would help preserve productive farmland in the county. Nationwide, population is growing while farmland is shrinking. Nebraska’s role as a major agricultural producer is more important than ever, and Lancaster County is full of prime farmland. Farmland is an important resource, and once it’s developed for urban uses, it is very unlikely to ever be returned to agriculture.

Edge Growth

- Prime farmland is lost as it is converted to urban uses. To help preserve farmland, the policy of directing new rural growth into existing incorporated areas and where AGR zoning is already present is expected to continue.

- Increased reliance on single-occupant automobiles would increase the city’s impact on the environment and could contribute to lower air quality.

Development Considerations

Infill

- If a high infill scenario is achieved by limiting available land on the fringes of the city, land prices for the smaller amount of developable fringe land would likely increase, and those costs would ultimately be passed down to homeowners and other property owners in those areas. In the same fashion, higher demand for potential infill properties could increase land prices citywide. This could constrain supply of new housing, raising prices for all.

- Costs per square foot for redeveloping a property can be high if existing buildings on the site need to be demolished or other significant site preparation is necessary. In addition, the site constraints inherent to many infill projects require expensive vertical construction. The City currently uses TIF to help mitigate some of those costs, and if more infill were to occur, TIF along with possibly other incentives may be needed in order to help facilitate projects. State Statute changes to TIF over the next 30 years could have significant impacts on the City’s primary redevelopment tool.

Edge Growth

- Development of new land provides significantly more flexibility for layout and design of projects. Developers are more easily able to tailor their projects to meet market demand.

- In many cases land assembly and site preparation is easier when compared to infill projects. Ease of development helps support Lincoln’s continued growth.

Agriculture is a key component to the economy of Lancaster County.
Housing

Infill

- While some infill projects could incorporate detached single family housing, it would be unlikely that significant amounts of new single family housing would be built as infill. In a high infill, high density scenario, constrained supply of new detached single family housing would ultimately raise the costs of all single family housing, assuming consumer housing choice preferences remain similar to today. The impact could be mitigated somewhat if housing choice continues to gravitate towards more multi-family options.

- Redevelopment in existing lower income neighborhoods, if not done in an appropriate fashion, could lead to gentrification and increase affordable housing challenges. A successful redevelopment project in a lower income area would improve the character of the neighborhood without displacing residents.

Edge Growth

- With a high edge growth scenario, an increased supply of land could lower land prices, and ultimately, those savings could result in lower prices for newly-constructed homes.

- It’s important to note that there is currently a significant amount of housing units already approved in growth areas that have not yet been built. As of January 2020, there were approximately 16,000 approved unbuilt units in edge growth areas, which is roughly a 12-year supply. It’s unclear whether increasing the approved supply to 15 or even 20 years would have a significant impact on housing production or cost.

- Market demand and demographic changes are pointing toward an increasingly diverse housing mix beyond what is thought of as typical edge development.

NEXT STEPS

As discussed at the beginning of this report, this summary marks the beginning of the growth scenarios public process.

- **July 7**: Publish Growth Scenarios Summary Report (this document).
- **July 7 – August 31**: Launch Virtual Public Event that includes public input activities related to growth scenarios.
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