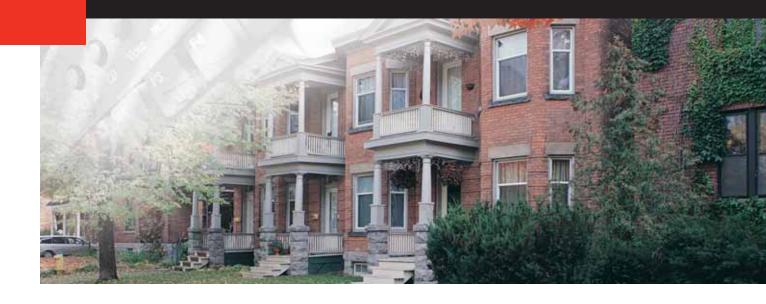# RESEARCH REPORT

Smart Growth, Livable and Sustainable
Communities for Seniors
Part 1: Final Research Report

Canada

CMHC—HOME TO CANADIANS

Canada Mortgage and Housing Corporation (CMHC) has been Canada's national housing agency for more than 60 years.

Together with other housing stakeholders, we help ensure that Canada maintains one of the best housing systems in the world. We are committed to helping Canadians access a wide choice of quality, affordable homes, while making vibrant, healthy communities and cities a reality across the country.

For more information, visit our website at **www.cmhc.ca**

You can also reach us by phone at 1-800-668-2642 or by fax at 1-800-245-9274.

Outside Canada call 613-748-2003 or fax to 613-748-2016.

Canada Mortgage and Housing Corporation supports the Government of Canada policy on access to information for people with disabilities. If you wish to obtain this publication in alternative formats, call 1-800-668-2642.

IEc

SMART GROWTH, LIVABLE AND SUSTAINABLE COMMUNITIES FOR SENIORS

FINAL RESEARCH REPORT

February 2008

INDUSTRIAL ECONOMICS, INCORPORATED

Smart Growth, Liveable and Sustainable Communities for Seniors

Final Research Report

Prepared
By
Industrial Economics, Incorporated
In collaboration with Dr. Gloria Gutman, Professor Emerita,
Gerontology Department, Simon Fraser University

For
Canada Mortgage and Housing Corporation
Project Manager: Luis Rodriguez

February 2008

Acknowledgements

ABSTRACT

This research investigated the relationship between smart growth concepts and the creation of livable and sustainable communities that would facilitate aging in place. Based on the findings of a literature review and focus groups with seniors, the researchers developed a set of indicators to measure the extent to which a community's built environment benefits seniors' health, quality of life, and well-being. The researchers interviewed 30 planners and other experts who provided feedback on the indicators and helped to refine them. After conducting a pilot test with two communities to gather feedback on the utility of the indicators and the availability of the data required to support their use, the researchers incorporated this information to develop a revised set of indicators. Local planners can use these indicators as a tool for setting goals related to the built environment needs of an aging population and for tracking progress against those goals.

IEc

TABLE OF CONTENTS

IEc

EXECUTIVE SUMMARY

INTRODUCTION

Canadian society is facing a marked demographic shift as the baby boom generation ages. By 2026, Canadians 55 and over will account for 35 percent of the country's population, doubling the size of the current 55 plus population. The majority of Canadians over 55 years old own their own home and desire to age in place, to continue to live in their homes or at least in their existing communities as they grow older.

A growing body of literature points to the built environment as a key determinant of seniors' ability to remain active, independent, and connected to their community– neighbourhood, village, town or city. Built environment features can support aging in place and active senior living. With their emphasis on accessibility, diversity, and affordability, the concepts of smart growth and livable and sustainable communities appear to hold value for citizens looking to age in place.

OBJECTIVES

This research investigated the relationship between smart growth concepts and the creation of livable and sustainable communities that would facilitate aging in place. It also sought to develop a set of indicators to assist local communities in meeting the built environment needs of an aging population. Local planners can use these indicators as a tool for setting goals related to the built environment needs of an aging population and for tracking progress against those goals.

METHODOLOGY

We employed a suite of mutually reinforcing qualitative research methods. We began with a literature review. We found a large body of literature on the principles and implementation of smart growth and livable communities, and some literature on the implementation of sustainable communities. We also identified a sizable body of literature on aging in place. However, we identified few pieces of literature, from Canada or elsewhere, that explicitly connect the two topics, although implicit connections are common. By synthesizing information across available literature, we identified and categorized challenges in meeting the needs of older residents associated with land-use planning and the built environment in six key areas: neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in civic activities. We used these six categories as an organizing principle throughout subsequent project phases.

Following the literature review, we conducted two focus groups with senior residents in suburban areas of Montreal and Vancouver. The focus groups were designed to collect input on the challenges of aging in place related to the built environment. Findings from the focus groups validated and expanded the findings of the literature review.

Subsequently, we developed 10 case studies that illustrate how the principles, elements, and features of smart growth and livable and sustainable communities have been used by planners to meet the built environment needs of seniors. The case studies illustrate various interventions and planning approaches at different community levels (e.g., neighbourhood, city, and regional municipality).

We used available literature to develop a set of indicators to measure the extent to which a community's built environment benefits seniors' health, quality of life, and well-being. We then interviewed 30 planners and other experts who provided feedback on the indicators and helped to refine them. Pilot tests of the indicator set were conducted with the Squamish, BC and Mississauga, ON planning departments. These pilot tests provided feedback on the utility of the indicators and the availability of the data required to support their use. We incorporated this information in developing a revised set of indicators to assist community planning for the built environment needs of an aging population.

FINDINGS FROM LITERATURE REVIEW, FOCUS GROUPS, AND CASE STUDIES

The literature review, focus groups, and case studies yielded several findings on the relationship between smart growth concepts and the creation of livable and sustainable communities whose built environment would meet the needs of seniors and allow them to age in place. Four overarching findings were identified, as well as several findings specific to the six key areas noted above: neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in civic activities.

Overarching Findings

1. Most Canadian communities have made minimal progress in achieving smart growth and livability goals to date, and are thus ill prepared to accommodate the housing and mobility needs of an aging population. Government leadership is needed to make the smart growth, livability, and aging in place connection, and to push these issues to the forefront of the public policy agenda.

2. Certain tenets of smart growth and livable and sustainable communities are especially important to seniors striving to remain independent members of their community: pedestrian friendly orientation of streetscapes, mixing of land uses, the availability of transit options and reduced reliance on automobiles, and the existence of an affordable and diverse housing stock. Attention to these tenets facilitates land use practices that benefit all community members.

3. Many planning and zoning changes needed to facilitate housing strategies that meet smart growth and livable community goals are the same as those needed to support aging in place. These include dispensing with large lot zoning, minimum parking requirements, and bans on multi-unit housing, and promoting tested forms of alternative zoning and planning approaches that facilitate compact, mixed-use development.

4. Collaboration between government and the private sector in real estate development projects, as well as in providing services such as transportation and home renovation, can be an effective strategy for implementing plans to improve seniors' quality of life.

Findings Specific To Key Areas

Neighbourhood Walkability: Smart growth streetscape planning for seniors must include attention to small details, such as the availability of sidewalks in good repair and resting places along pedestrian routes, which, in combination, have significant impacts on the ability of older residents to take advantage of pedestrian routes. Planning for walkable communities is an important component in allowing seniors to live independently. Design plans that feature walkability create safe environments for seniors, facilitate community engagement, reduce feelings of isolation, and promote active lifestyles – all of which are essential for successful aging in place.

Transportation: The smart growth emphasis on widespread transit availability facilitates aging in place, although age-sensitive transit features are needed to make seniors feel safe and comfortable using transit systems. Without better public transportation service, older seniors will continue to drive to meet their transportation needs, even if driving is stressful. In addition, seniors who should not drive, but do so because they do not have other transportation options, pose a risk to themselves and others. Smart growth planning mitigates the need for seniors to drive.

Safety: Many seniors harbor concerns about crime and personal safety that need to be taken into consideration when promoting walking and public transportation. The fear of crime or fear of falling on poorly maintained or icy sidewalks is heightened at night. Several smart growth strategies mitigate these fears by providing better lighting and safer crossings, and also by encouraging high levels of pedestrian activity.

Housing: Communities that provide for a range of housing choices are better equipped to deal with aging populations. A well-diversified and affordable housing stock provides seniors with options to remain in their own community in event that they can no longer live in their current residences.

Access to Services: In order to live full and independent lives, seniors need to be able to access basic services such as health care, grocery stores, retail shopping, community facilities, and other recreational opportunities. Basic services should be located within short walks of residences and at transportation nodes.

Community Engagement: Senior isolation due to a lack of mobility has negative economic and civic impacts that can be avoided with smart growth planning. A community that is designed to support senior mobility can take advantage of the talents and contributions of its seniors. Involving seniors in planning for the future of their communities is a proven approach to ensuring that future land use projects are inclusive of senior needs.

FINDINGS ON INDICATOR DEVELOPMENT AND TESTING

A preliminary indicator set was developed based on available literature; much of the work in developing indicators involved expressing built environment elements in a way that allows for quantitative goal setting and data collection.

Interviews were conducted with planners and other experts to refine the indicator set. Through this process, the following indicators were developed:

Neighbourhood Walkability:

1. Proportion of housing within walking distance (500 metres) to public transportation (could be further categorized by new versus existing housing stock by local government).

2. Average distance between pedestrian resting places (e.g., benches) along sidewalks.

3. Proportion of streets (by linear km) in the community that contain sidewalks. Specifically, the proportions of streets that contain: sidewalks on both sides, a sidewalk on one side, or no sidewalks.

4. Proportion of sidewalks (by linear km) that could be defined as in good repair (i.e., no badly cracked or broken pavement).

5. Average number of walks per day/week/month taken by residents age 65+ (local government should categorize by destination, season/length/time of walk).

6. Annual number of pedestrian: 1) injuries and 2) fatalities from accidents with automobiles, categorized by: victim age, season, and reason for accident.

7. Proportion of sidewalks cleared during/after a snow fall/freezing rain.

Transportation Options:

1. Proportion of residents age 65+ who travel every day, once a week, once a month, or never, categorized by: mode of transportation, destination, and season.

2. Average number of trips taken on public transportation every day, once a week, once a month by residents age 65+.

3. Average number of times per week that residents 65+ report staying at home because of lack of transportation.

Safety:

1. Proportion of residents age 65+ who report feeling safe/unsafe in their neighbourhood, categorized by: time of day, location, and reason(s) for feeling unsafe.

2. Proportions of streets, pedestrian routes (by linear km), bus stops, public places, and retail areas that lack adequate lighting for walking at night.

3. Annual number of slip and fall injuries on sidewalks and in public spaces, categorized by: season, type of injury, and place of fall.

4. Number of reported street crimes against residents ages 65+, categorized by: type of crime, location of crime, and time of day.

5. Availability of wayfinding systems/safety features at crosswalks (e.g., crossing times that allow seniors to cross the streets safely, clear signage, visible sight lines, crossing noise for the visually impaired, safe design).

Housing Choice:

1. Proportions and numbers of residences in the community categorized by housing type: multi-family home, single-family home, duplex, townhouse, rowhouse, mobile home, FlexHousing™, garden suites/granny flats, accessory dwelling units, and other (could be further categorized by new versus existing housing stock).

2. Occupancy rates at existing lifestyle retirement, senior residences, and supportive housing in the community.

3. Types of tenure available in the community (freehold homeownership, rental, condominium, cooperative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure).

4. Proportion of residents 65+ who spend equal to or greater than 30 percent of their before tax household income on housing.

5. Proportion of residents age 65+ living in housing with unmet home modification needs (e.g., narrow hallways, unsafe stairs, lack of bathroom grab bars, inadequate lighting).

6. Proportion of households living in "acceptable" housing (meeting adequacy, suitability, and affordability standards) in the community, categorized by age cohort.

Access to Services:

1. Proportion of housing within walking distance (500 metres) to the following basic services: pharmacy, grocery store, and bank.

2. Proportion of housing within walking distance (500 metres) OR within a 10 minute car/public transportation trip to the following services: pharmacy, grocery store, bank, hospital, senior center, retail shopping.

3. Proportion of residents 65+ that require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping, libraries and community halls.

4. Proportion of residents 65+ who have access to home delivery of groceries and other retail goods.

Community Engagement:

1. Proportion of residents 65+ who engage in social activities at least once per week. Activities may include: meeting with friends/neighbors, engaging in civic religious, or cultural activities, and participating in volunteer or part time work.

2. Proportion of residents 65+ who have access from their home to a dedicated senior centre or other places of interest such as libraries and community centres.

3. Local government has land use policy and planning programs that specifically engage seniors.

Planners conducted a pilot test of the indicators in the Fall of 2007. In an attempt to reflect the diversity in Canadian development patterns, two communities that differ in demography and character were selected for the pilot test:

- Mississauga, Ontario: Located directly west of Toronto, Mississauga is Canada's sixth largest city, with a population of approximately 700,000 people. Mississauga is a growing city known for having a forward-thinking planning department. The Mississauga Planning and Building Department maintains a wide-range of planning data, including an extensive geographic information system (GIS).

- Squamish, British Columbia: Located approximately halfway between Vancouver and Whistler along the Sea-to-Sky highway, the town of Squamish (population ~ 16,000) serves as the economic and cultural centre of the Squamish-Lillooet Regional District. The District is currently implementing new smart growth regulations and zoning to accommodate rapid population growth in the region. Like planners in many small towns, the District of Squamish Planning Department has relatively few resources to devote to data collection.

The pilot test responses provided a preliminary assessment of the usefulness of the indicators developed, as well as and description of the types of data sources available to respond to each indicator. Data availability is a key issue to address in determining the level of effort needed to employ each indicator. Data is needed to develop baselines, set goals, and track progress towards established goals. Pilot testers provided input on additional sources of data used to respond to indicators, in addition to data sources that were identified at previous stages of the project.

The exhibit below summarizes the number of indicators for which each community located readily available data, by key area. In some cases, planners indicated that additional data may have been available if more time was available for the pilot test or if the pilot test was conducted at a later date. For many indicators, however, surveys or focus groups would be needed to establish baselines and goals, and collect data needed to track progress.

PILOT TEST RESULTS: NUMBER OF INDICATORS WITH DATA READILY AVAILABLE

INDICATOR CATEGORY (TOTAL NUMBER OF INDICATORS IN PILOT TEST)	NUMBER OF INDICATORS FOR WHICH DATA IS READILY AVAILABLE	
	MISSISSAUGA, ON	SQUAMISH, BC
Neighbourhood Walkability (7)	4	1
Transportation Options (3)	2	1
Safety (5)	1	2
Housing Choice (6)	4	3
Access to Services (4)	0	2
Community Engagement (3)	3	2
Total (28)	14	11

The final indicators table and checklist tool (see Exhibit 4-9) contains the indicators, likely data sources, and a scoring feature that allows local governments to measure their progress against established goals and/or prior indicator measurements. At the time of a baseline assessment, this feature can be used by local governments to set goals and milestones.   For example, if a hypothetical user selects a community goal for Walkability #1 of "40 percent of housing within walking distance (500 metres) to public transportation," and the current response to the indicator is "20 percent," then the locality has met 50 percent of its goal. Using the scoring system provided at the bottom of the final indicator table, one could grade the locality's progress. In this example, by meeting 50 percent of its goal, the locality would score "moderate progress" on this indicator.

RÉSUMÉ

INTRODUCTION

La société canadienne est confrontée à un changement démographique marqué à mesure que la génération du baby-boom avance en âge. D'ici 2026, les Canadiens de 55 ans et plus compteront pour 35 % de la population du pays, c'est-à-dire que sa proportion doublera. La plupart des Canadiens de plus de 55 ans sont propriétaires de leur maison et souhaitent continuer d'y vivre, ou du moins, de vivre dans leur milieu.

Dans les ouvrages spécialisés qui se font de plus en plus nombreux, l'environnement bâti est un facteur déterminant de la capacité des aînés à demeurer actifs, indépendants et liés à leur quartier, leur village, leur ville ou leur municipalité. Les caractéristiques d'un environnement bâti peuvent faire en sorte que les aînés vieillissent chez eux et demeurent actifs. Les concepts de croissance intelligente et de collectivités accueillantes et durables, qui mettent l'accent sur l'accessibilité, la diversité et l'abordabilité, représentent des valeurs auxquelles tiennent les citoyens qui veulent vieillir chez eux.

OBJECTIFS

Cette recherche porte sur le lien entre le concept de croissance intelligente et la création de collectivités accueillantes et durables qui permettraient aux aînés de vieillir chez eux. Elle vise également à élaborer un ensemble d'indicateurs pour aider les communautés à répondre aux besoins de la population vieillissante en ce qui a trait à l'environnement bâti. Les urbanistes locaux peuvent utiliser ces indicateurs comme des outils pour fixer les objectifs visant à répondre aux besoins d'une population vieillissante en matière d'environnement bâti et pour faire le suivi des progrès par rapport à ces objectifs.

MÉTHODE

Nous nous sommes servis d'une série de méthodes de recherche qualitative qui s'appuient mutuellement. Nous avons commencé par examiner la documentation existante. Nous avons trouvé un grand nombre d'ouvrages sur les principes et la mise en œuvre du concept de la croissance intelligente et des collectivités accueillantes, et d'autres sur la mise en œuvre de collectivités durables. Nous avons également trouvé une quantité appréciable d'ouvrages sur le vieillissement chez soi. Cependant, nous n'avons trouvé que peu de documents provenant du Canada ou d'ailleurs qui établissent un lien clair entre les deux sujets, bien qu'il soit fréquent que des liens soient implicitement établis. Une synthèse de l'information tirée des ouvrages disponibles nous a permis de circonscrire les défis que présentent les besoins des résidents âgés associés à la

planification de l'aménagement du territoire et à l'environnement bâti, et de les classer selon les six catégories suivantes : le potentiel piétonnier du quartier, les possibilités de transport, l'accès aux services, le choix de logements, la sécurité et la participation communautaire. Nous avons utilisé ces six catégories comme principe structurel à appliquer d'un bout à l'autre des phases subséquentes de l'étude.

Une fois l'examen des ouvrages terminé, nous avons formé deux groupes de discussion composés d'aînés habitant les régions suburbaines de Montréal et de Vancouver. Les groupes de discussion devaient permettre de recueillir des avis sur les enjeux liés au vieillissement chez soi dans l'environnement bâti. Les résultats des groupes de discussion nous ont permis de valider les conclusions qui se sont dégagées de l'examen des ouvrages, et de les développer.

Nous avons ensuite élaboré dix études de cas qui illustrent la façon dont les urbanistes ont utilisé les principes, les éléments et les caractéristiques des concepts de la croissance intelligente et des collectivités accueillantes et durables pour répondre aux besoins des aînés en matière d'environnement bâti. Les études de cas illustrent également les diverses interventions faites à différents niveaux de la collectivité (par exemple, quartier, ville, municipalité régionale) et les différentes approches d'aménagement utilisées.

Nous avons puisé dans les ouvrages disponibles pour élaborer un ensemble d'indicateurs servant à mesurer l'étendue des avantages d'un environnement bâti, notamment en ce qui concerne la santé, la qualité de vie et le bien-être des aînés. Nous avons ensuite interrogé 30 urbanistes et avons consulté d'autres experts qui nous ont fait part de leurs commentaires sur les indicateurs et qui nous ont aidé à les peaufiner. Des tests pilotes sur l'ensemble des indicateurs ont été menés auprès des services d'urbanisme de Squamish, en Colombie-Britannique et de Mississauga, en Ontario. Ces tests nous ont donné de l'information sur l'utilité des indicateurs et sur l'accessibilité des données nécessaires pour utiliser ces indicateurs. Nous avons intégré cette information dans l'élaboration d'un ensemble d'indicateurs revus servant à faciliter l'urbanisme en fonction des besoins de la population vieillissante en matière d'environnement bâti.

RÉSULTATS DE L'EXAMEN DES OUVRAGES, DES GROUPES DE DISCUSSION ET DES ÉTUDES DE CAS

L'examen des ouvrages, les activités des groupes de discussion et les études de cas ont mené à plusieurs constatations sur la relation entre le concept de croissance intelligente et la création de collectivités accueillantes et durables dont l'environnement bâti répondrait aux besoins des aînés et permettrait à ces derniers de vieillir chez eux. Quatre principales constatations se sont dégagées, de même que plusieurs autres résultats s'appliquant particulièrement aux six principales catégories susmentionnées, c'est-à-dire le potentiel piétonnier, les possibilités de transport, l'accès aux services, le choix de logements, la sécurité et la participation communautaire.

1. Jusqu'à maintenant, la plupart des collectivités canadiennes n'ont fait que très peu de progrès relativement à l'atteinte des objectifs en matière de croissance intelligente et de collectivités accueillantes et durables. Elles ne sont donc pas bien préparées pour répondre aux besoins de la population vieillissante en matière de logement et de mobilité. Le leadership gouvernemental est nécessaire pour établir un lien entre la croissance intelligente, l'habitabilité et le vieillissement chez soi, et pour mettre ces défis au premier plan des politiques gouvernementales.

2. Certains principes de la croissance intelligente et des collectivités accueillantes et durables sont particulièrement importants pour les aînés qui s'efforcent de demeurer des résidents autonomes dans leur milieu. Ces principes sont l'aménagement de rues plus conviviales pour les piétons, une utilisation mixte des terres, les possibilités de transport en commun, la réduction de la dépendance à l'automobile et l'existence d'un parc de logements diversifiés et abordables. Prêter une attention particulière à ces principes facilite les pratiques d'utilisation des terres dont tous les membres de la collectivité tirent parti.

3. De nombreux changements dans les pratiques d'urbanisme et de zonage, nécessaires pour faciliter la mise en œuvre de stratégies relatives à l'habitation respectant les objectifs de croissance intelligente et de collectivités accueillantes, sont les mêmes que ceux requis pour permettre aux aînés de vieillir chez eux. Ces changements comprennent l'abandon des lots de grande superficie, des exigences minimales en matière de stationnement et de l'interdiction de construire des tours d'habitation, associés à la promotion d'autres approches de zonage et d'urbanisme ayant fait leurs preuves qui favorisent un aménagement groupé et à usages multiples.

4. Une collaboration entre l'administration publique et le secteur privé dans les projets d'aménagement immobilier, de même que dans l'offre de services tels que les services de transport et de rénovations résidentielles, peut constituer une stratégie efficace pour la mise en œuvre de plans visant à améliorer la qualité de vie des aînés.

Potentiel piétonnier. La planification de la croissance intelligente en matière d'aménagement des rues pour les aînés exige une attention particulière aux petits détails, comme l'accès à des trottoirs en bon état et des aires de repos le long des voies piétonnières, qui, ensemble, font que les résidents plus âgés peuvent profiter davantage des voies piétonnières. L'aménagement de collectivités conviviales pour les piétons dans un quartier est un élément important permettant aux aînés de vivre de façon autonome. Des plans d'aménagement tenant compte du potentiel piétonnier assurent des environnements sécuritaires pour les aînés, encouragent la participation communautaire,

réduisent le sentiment d'isolement et incitent à adopter un mode de vie plus actif. Tous ces facteurs sont essentiels pour bien vieillir chez soi.

Transport. Le concept de croissance intelligente met l'accent sur l'accès aux services de transport en commun étendus qui facilitent le vieillissement chez soi, bien que des moyens de transport en commun adaptés aux aînés soient nécessaires pour que ces derniers s'y sentent en sécurité et qu'ils les utilisent en toute confiance. Si aucune amélioration n'est apportée aux services de transport en commun, les aînés continueront de prendre leur voiture, même si la conduite automobile est un facteur de stress. De plus, les aînés qui ne devraient pas conduire, mais qui conduisent tout de même parce qu'ils n'ont pas d'autres options de transport, représentent un risque pour elles-mêmes et pour les autres. Planifier la croissance de manière intelligente réduit le besoin chez les aînés de conduire.

Sécurité. Bon nombre d'aînés s'inquiètent de leur sécurité. Ce problème doit être pris en compte dans la promotion de la marche et du transport en commun. La peur d'être victime d'un acte criminel ou de tomber sur un trottoir mal entretenu ou glacé est plus grande le soir. Plusieurs stratégies de croissance intelligente atténuent ces craintes en assurant un meilleur éclairage, des passages pour piétons plus sécuritaires et en favorisant une plus grande activité piétonnière.

Logement. Les collectivités qui offrent différents types de logements sont mieux placées pour faire face aux besoins d'une population vieillissante. Un parc de logements diversifiés et abordables offre aux aînés différentes possibilités pour demeurer dans leur milieu au cas où ils ne pourraient plus vieillir dans leur propre résidence.

Accès aux services. Pour pouvoir vivre pleinement et de façon autonome, les aînés doivent avoir accès aux services de base tels que les soins de santé, les épiceries, les commerces, les installations communautaires et les activités récréatives. Les services de base devraient être à distance de marche des résidences et des carrefours de transport.

Participation communautaire. L'isolement des aînés en raison du manque de mobilité a une incidence négative sur l'économie et la collectivité, ce qu'il est possible d'éviter grâce à une planification intelligente de la croissance. Un aménagement qui tient compte de la mobilité des aînés peut tirer profit des talents et des contributions de ses résidents âgés. La participation des aînés à la planification de l'avenir de leur collectivité constitue une approche éprouvée pour s'assurer que les futurs projets d'utilisation des terres tiendront compte des besoins des aînés.

RÉSULTATS RELATIFS À L'ÉLABORATION ET À LA VÉRIFICATION DES INDICATEURS

Un ensemble préliminaire d'indicateurs a été élaboré à partir de la documentation existante. Le plus gros du travail d'élaboration a consisté à définir les éléments de l'environnement bâti d'une façon qui permette l'établissement d'objectifs quantitatifs et la collecte de données.

Des entrevues menées auprès d'urbanistes et d'experts ont permis de peaufiner l'ensemble d'indicateurs. Voici ceux qui ont ainsi été élaborés :

Potentiel piétonnier du quartier

1. Proportion des logements à distance de marche (500 mètres) du transport en commun (indicateur pouvant être précisé davantage par l'administration locale en comparant le nouveau parc de logements à l'ancien).

2. Distance moyenne entre les aires de repos pour piétons (par exemple, bancs) le long des trottoirs.

3. Proportion des rues (en kilomètres linéaires) qui ont des trottoirs. Plus précisément, la proportion des rues qui ont des trottoirs des deux côtés, d'un seul côté ou qui n'en ont pas.

4. Proportion des trottoirs (en kilomètres linéaires) qui peuvent être considérés en bon état (c'est-à-dire sans vilaines fissures ni dalles brisées).

5. Nombre moyen des déplacements à pied effectués par jour, par semaine et par mois par les résidents de 65 ans et plus (l'administration locale devrait préciser l'indicateur selon la destination, la saison, la durée et l'heure de ces déplacements).

6. Nombre annuel de piétons : 1) blessés, 2) décédés en raison d'accidents automobiles, catégorisés selon l'âge des victimes, la saison et la cause de l'accident.

7. Proportion de trottoirs dégagés pendant ou après une chute de neige ou une pluie verglaçante.

Possibilités de transport

1. Proportion de résidents âgés de 65 ans et plus qui se déplacent chaque jour, une fois par semaine, une fois par mois ou qui ne se déplacent pas, selon le moyen de transport, la destination et la saison.

2. Quantité moyenne de déplacements quotidiens ainsi que de déplacements une fois par semaine et une fois par mois en transport en commun effectués par les résidents âgés de 65 ans et plus.

3. Nombre de fois par semaine, en moyenne, où les résidents de 65 ans et plus ont déclaré avoir dû rester à domicile en raison de l'absence de transport.

Sécurité

1. Proportion de résidents de 65 ans et plus qui ont déclaré se sentir en sécurité ou ne pas se sentir en sécurité dans leur quartier selon le moment de la journée, le lieu et, le cas échéant, selon la raison du sentiment d'insécurité.

2. Proportions de rues, de voies piétonnières (en kilomètres linéaires), d'arrêts d'autobus, de lieux publics et de zones commerciales qui n'ont pas d'éclairage adéquat propice à se déplacer à pied le soir.

3. Quantité annuelle de blessures dues à des chutes sur les trottoirs et dans les lieux publics selon la saison, le type de blessure et le lieu de la chute.

4. Nombre déclaré d'actes criminels sur la rue contre des résidents âgés de 65 ans et plus selon le type de crime, le lieu et le moment de la journée.

5. Existence de systèmes de signalisation et de sécurité aux intersections (par exemple, délais permettant aux aînés de traverser la rue en toute sécurité, signalisation claire, lignes de visibilité claires, signaux sonores pour personnes aveugles, conception sécuritaire, etc.).

Choix de logements

1. Proportions et quantités de logements dans la collectivité selon le type de logement : collectif d'habitation, maison individuelle, duplex, maisons en rangée, maison mobile, Bâti-Flex^MC, pavillon-jardin, logement accessoire, etc. (indicateur pouvant être précisé davantage en comparant le nouveau parc de logements à l'ancien).

2. Taux d'occupation dans les résidences adaptées au mode de vie et les résidences pour aînés ainsi que dans les logements supervisés.

3. Modes d'occupation possibles (propriété franche, location, copropriété, coopérative, cohabitation, location à bail, coopérative à capitalisation, location à bail viager, propriété viagère, mode flexible).

4. Proportion des résidents de 65 ans et plus qui consacrent 30 % ou plus du revenu brut du ménage aux coûts d'habitation.

5. Proportion des résidents de 65 ans et plus qui vivent dans des logements non conformes à leurs besoins (couloirs étroits, escaliers non sécuritaires, absence de barres d'appui dans la salle de bains, éclairage insuffisant, etc.).

6. Proportion des ménages qui vivent dans un logement « acceptable » (conforme aux normes de taille, de qualité et d'abordabilité des logements) selon la cohorte d'âge.

Accès aux services

1. Proportion des logements situés à distance de marche (500 mètres) des établissements de services de base suivants : pharmacie, épicerie et banque.

2. Proportion des logements à distance de marche (500 mètres) OU à 10 minutes ou moins en voiture ou en transport en commun des établissements de service

suivants : pharmacie, épicerie, banque, hôpital, centre pour aînés, commerces de détail.

3. Proportion des résidents de 65 ans et plus qui ont besoin d'aide de la part des membres de leur famille ou d'autres personnes pour avoir accès aux établissements de service suivants : pharmacie, épicerie, banque, hôpital, centre pour aînés, commerces, bibliothèques et salles communautaires.

4. Proportion des résidents de 65 ans et plus qui ont accès à des services de livraison à domicile d'épicerie et de marchandises de détail.

Participation communautaire

1. Proportion des résidents de 65 ans et plus qui participent à des activités sociales au moins une fois par semaine. Ces activités peuvent comprendre des rencontres avec des amis ou des voisins, des activités civiques, religieuses ou culturelles, du bénévolat ou du travail à temps partiel.

2. Proportion des résidents de 65 ans et plus qui ont accès depuis leur résidence à un centre réservé aux aînés ou à d'autres lieux d'intérêt comme une bibliothèque ou un centre communautaire.

3. L'administration locale a une politique d'aménagement du territoire et des programmes d'urbanisme axés sur les aînés.

Pendant l'automne 2007, un test pilote sur les indicateurs a été effectué par des urbanistes. Afin d'illustrer la diversité dans les modèles d'aménagement au Canada, les deux collectivités suivantes, différentes par leur démographie et leurs caractéristiques, ont été choisies pour le test :

• Mississauga (Ontario) : Avec sa population d'environ 700 000 habitants, cette ville située immédiatement à l'ouest de Toronto est la sixième en importance du Canada. Mississauga est une ville en croissance reconnue pour son service d'urbanisme avant-gardiste. Celui-ci tient à jour une importante base de données d'aménagement, y compris un système d'information géographique (SIG) complet.

• Squamish (Colombie-Britannique) : Située à peu près à mi-chemin entre Vancouver et Whistler le long de l'autoroute « Entre ciel et mer », la ville de Squamish (environ 16 000 habitants) sert de centre économique et culturel du district régional de Squamish-Lillooet. Le district applique actuellement de nouveaux règlements régissant la croissance intelligente et procède au zonage nécessaire pour tenir compte de la croissance démographique rapide dans la région. Comme les urbanistes de beaucoup d'autres petites villes, ceux du service d'urbanisme du district de Squamish disposent de relativement peu de ressources à consacrer à la collecte de données.

Les réponses au test ont permis d'évaluer de façon préliminaire l'utilité des indicateurs élaborés ainsi que de décrire les types de sources de données disponibles pour chacun des indicateurs. La disponibilité des données est un élément important à prendre en compte

pour déterminer l'effort nécessaire à l'utilisation de chaque indicateur. Les données sont essentielles pour établir les bases de référence, fixer les objectifs ainsi que pour mesurer les progrès. Les villes choisies pour le test ont fourni d'autres sources de données qui s'ajoutent à celles déterminées dans les étapes précédentes du projet.

Le tableau ci-dessous présente le nombre d'indicateurs, par catégorie, pour lesquels les deux villes ont trouvé des données accessibles. Dans certains cas, les urbanistes ont mentionné que des données additionnelles auraient pu être disponibles si plus de temps avait été accordé au test ou s'il avait été effectué à une date ultérieure. Cependant, pour beaucoup d'indicateurs, des sondages ou des groupes de discussion seraient nécessaires pour établir les bases de références et les objectifs ainsi que pour recueillir les données essentielles à la mesure des progrès.

RÉSULTATS DU TEST PILOTE : NOMBRE D'INDICATEURS POUR LESQUELS DES DONNÉES SONT ACCESSIBLES

CATÉGORIE D'INDICATEURS (NOMBRE D'INDICATEURS POUR LE TEST)	NOMBRE D'INDICATEURS POUR LESQUELS DES DONNÉES SONT ACCESSIBLES	
	MISSISSAUGA (ON)	SQUAMISH (C.-B.)
Potentiel piétonnier du quartier (7)	4	1
Possibilités de transport (3)	2	1
Sécurité (5)	1	2
Choix de logements (6)	4	3
Accès aux services (4)	0	2
Participation communautaire (3)	3	2
Total (28)	14	11

Le tableau final des indicateurs, qui fait également office d'outil de contrôle (voir le Tableau 4-9), présente les indicateurs, les sources de données probables et un système de classement qui permet aux administrations locales de mesurer les progrès par rapport aux objectifs établis ou aux mesures précédentes. Au moment de l'évaluation d'une base de référence, ce système peut être utilisé par les administrations locales pour établir des objectifs et des étapes clés. Par exemple, si une localité hypothétique fixe un objectif pour le premier indicateur du potentiel piétonnier à « 40 % de logements à distance de marche (500 mètres) du transport en commun » et que la mesure actuelle de l'indicateur est de 20 %, alors la localité a atteint 50 % de son objectif. En utilisant le système de classement fourni au bas du tableau final des indicateurs, il est possible d'évaluer les progrès d'une localité. En reprenant l'exemple susmentionné, la localité qui a atteint 50 % de son objectif obtiendrait un niveau de progrès « modéré » pour cet indicateur.

CMHC ◆ SCHL

National Office   Bureau national

700 Montreal Road   700 chemin de Montréal
Ottawa ON K1A 0P7   Ottawa ON K1A 0P7
Telephone: (613) 748-2000   Téléphone : (613) 748-2000

Puisqu'on prévoit une demande restreinte pour ce document de recherche, seul le résumé a été traduit.

La SCHL fera traduire le document si la demande le justifie.

Pour nous aider à déterminer si la demande justifie que ce rapport soit traduit en français, veuillez remplir la partie ci-dessous et la retourner à l'adresse suivante :

Centre canadien de documentation sur l'habitation
Société canadienne d'hypothèques et de logement
700, chemin Montréal, bureau C1-200
Ottawa (Ontario)
K1A 0P7

Titre du rapport: _____

_____

Je préférerais que ce rapport soit disponible en français.

NOM _____

ADRESSE_____
       rue   App.

_____
       ville   province   Code postal

No de téléphone (   ) _____

PREFACE

Canadian society is facing a marked demographic shift as the baby boom generation ages. Between 1981 and 2006, Canada's senior population nearly doubled, and the senior share of total population increased from 9.7 percent to 13.7 percent.[1] By 2026, Canadians 55 and over will account for 35 percent of the country's population (12.6 million people), doubling the size of the current 55 plus population.[2]

Remaining physically active as one ages has been long recognized by public health experts and gerontologists as critically important in preserving physical health. More recently, experts have identified physical activity such as walking as an important factor in maintaining mental health, and minimizing incidence of age-related brain diseases such as dementia.[3] Similar links have been identified between the social activity of seniors and physical and mental health benefits.[4]

As discussed throughout this report, a growing body of literature points to the built environment as a key determinant of an individual's ability to remain active and connected to the community. The built environment encompasses the layout of a community, including pedestrian orientation, connectedness of residential and non-residential areas, and available transportation options. The built environment can also include the accessibility of housing, which is defined by a lack of barriers including stairs, narrow doorways, and other obstacles (e.g., inaccessible bathrooms).

---

[1] Statistics Canada, Statistics Canada, Censuses of Population, 1956 to 2006, Table 1
Percentage of the population aged 65 years and over in the last 50 years, Canada, provinces and territories, http://www12.statcan.ca/English/census06/analysis/agesex/tables/table1.htm, accessed on January 30, 2008.

[2] CMHC, "Determining the Implications of Population Aging for Housing and Residential Communities: Discussion Paper #2: Validating and Extending What was Learned from the Initial Literature Review (through Expert and Practitioner Views)," June 30, 2005, p. 1.

[3] Nussbaum, Paul David, "Five Brain-Health Factors," *Aging Today,* American Society on Aging, September-October, 2007. Barnes et. al., "Social Resources and cognitive decline in a population of older African Americans and whites," *Neurology,* April 18, 2007. Abbot et al., "Walking and Dementia in Physically Capable Elderly Men," *Journal of the American Medical Association*, September 22/29, 2004. Larson et al., "Exercise is Associated with Reduced Risk for Incident Dementia in Persons 65 Years of Age and Older," *Annals of Internal Medicine,* January 17, 2006.

[4] Nussbaum, Paul David, "Five Brain-Health Factors," *Aging Today,* American Society on Aging, September-October, 2007. Mendes et al., "Social Engagement and Disability in a Community Population of Older Adults," *American Journal of Epidemiology,* Vol. 157, No. 7, 2003.

The majority of Canadians over 55 years old own their own home.[5] Most older Canadians want to age in place, to continue to live in their homes or at least in their existing communities as they grow older.[6] Thus, it is important to gain a better understanding of built environment features that support aging and place and active living among seniors.

With their emphasis on accessibility, diversity, and affordability, the concepts of smart growth and livable and sustainable communities appear to hold value for citizens looking to age in place. To explore this issue further, the Canada Mortgage and Housing Corporation (CMHC) requested Industrial Economics, Incorporated (IEc) to undertake a multi-faceted research effort. This effort was designed to investigate the relationship between smart growth concepts and the creation of livable and sustainable communities that would facilitate aging in place. As part of this effort, IEc sought to develop a set of indicators to assist local communities in meeting the built environment needs of an aging population.

This report provides an overview of the project methodology and focuses on project findings. Chapter 1 defines the concepts of smart growth, livable and sustainable communities. Chapter 2 provides summary information on the methods used to research the intersection of these planning concepts and aging in place. Chapter 3 presents findings from the literature review, focus groups, and case studies developed for this project. Chapter 4 describes the indicator development and testing process and presents the results of this effort.

---

[5] The homeownership rate for Canadians between the ages of 55 and 75 is approximately 75 percent, with a decline after the age of 75. Comparatively few seniors reside in supportive housing, assisted living, or care facilities, with only 7.4 percent of the Canadian population over the age of 65 living in institutional settings.

[6] CMHC, "Determining the Implications of Population Aging for Housing and Residential Communities: Discussion Paper #2: Validating and Extending What was Learned from the Initial Literature Review (through Expert and Practitioner Views)," June 30, 2005, p. 23, unpublished.

IEc

CHAPTER 1: CONCEPTUAL OVERVIEW OF SMART GROWTH, LIVABLE AND SUSTAINABLE COMMUNITIES

In recent years, urban sprawl has emerged as a major concern in communities across North America. The automobile-dominated development patterns associated with urban sprawl have been linked to a range of societal problems, including urban decline, environmental degradation, government deficits, and social inequity. The smart growth movement, born as a reaction to urban sprawl, attempts to provide communities with options to manage growth more efficiently, while at the same time enhancing quality of life, preserving environmental resources, and saving taxpayer money.[7]

Smart growth encompasses a variety of themes centered on managing growth, improving communities, and protecting the environment. The principal elements of smart growth include:[8]

- **Planning and Design:** Smart growth promotes the planning of resource-efficient communities that make use of concepts such as mixed-use development, transit-oriented development, walkable neighbourhoods, open space preservation, and green building design.

- **Economy:** Sprawling development strains local resources by forcing communities to pay for the expansion of municipal systems (i.e., roads, water, and utilities) and services (i.e., police, fire, and social services). By focusing on efficient development and design, smart growth encourages the cost-effective use of public resources. In addition, smart growth encourages the use of community-based small business investment and development to create a diversified local job market.

- **Environment:** The environmental impacts resulting from urban sprawl include habitat fragmentation, air pollution, degradation of water resources, and global warming. Smart growth practices seek ways to reduce these impacts through better community design, infill development, and improving transportation options.

---

[7] Canada Mortgage and Housing Corporation, *Smart Growth in Canada: Implementation of a Planning Concept,* August 2005, p. 1.

[8] The discussion of the central tenants of smart growth are based on the Smart Growth Network's "Smart Growth Online: Overview of Issues," http://www.smartgrowth.org/about/issues/default.asp, accessed on October 24, 2006 and Smart Growth America's "Elements of Smart Growth," http://www.smartgrowthamerica.org/, accessed on October 25, 2006.

- **Health:** Smart growth's focus on efficient design seeks to diminish the impacts of development on human health by reducing air and water pollution. Additionally, by offering transportation options such as mass transit, bike lanes, and pedestrian walkways, smart growth encourages community members to participate in a more active lifestyle.

- **Housing:** Smart growth promotes housing options for diverse lifestyles and socio-economic levels, and encourages the development of housing in a fashion that reduces automobile dependency through compact and mixed-use development.

- **Transportation**: Smart growth supports the development of transportation options (e.g., walking, biking, transit) to provide communities with choice and convenience. These options also protect public health and environmental quality, conserve energy, encourage mobility, and improve quality of life.

- **Quality of Life**: In contrast to sprawling development, which can separate and segregate society, smart growth aims to build community and preserve or create a unique sense of place. Smart growth calls for an investment in resources to revitalize city centers, adapt older sites and buildings to new uses, preserve historic character, and conserve open space.

LIVABLE COMMUNITIES

Woven throughout the fabric of the smart growth movement is the notion of creating "livable communities." The definition of a "livable community" has evolved and expanded over time. Originally used to include broad topics such as quality of life and economic opportunity, the term has become associated with the principles of smart growth. Under this expanded description, a livable community is one that exhibits compact development patterns, provides transportation and housing choices, makes efficient use of public resources, and offers civic amenities.[9, 10]

Recently, advocates have expanded the concept of livability to incorporate the needs of specific constituencies, including seniors. The American Association of Retired Persons (AARP) has modified the definition of a livable community to mean "[a community] that has affordable and appropriate housing, supportive community features and services, and adequate mobility options, which together facilitate personal independence and the engagement of residents in civic and social life."[11]

---

[9] AARP Public Policy Institute, *Livable Communities: An Evaluation Guide,* 2005, p. 15.

[10] The "livability" of cities has also been evaluated on an even broader set of criteria, including such factors as health care quality and affordability or cultural and educational opportunities. See "Vancouver tops liveability ranking according to a new survey by the Economist Intelligence Unit," Economist Intelligence Unit, 2005. We do not include these broader criteria in the literature review of livable communities.

[11] AARP Public Policy Institute, *Livable Communities: An Evolution Guide,* 2005, p. 16.

SUSTAINABLE COMMUNITIES

The terms "livable community" and "sustainable community" are often used synonymously in the literature.[12] Similar to a livable community, a sustainable community refers to one that promotes smart growth concepts such as environmental sensitivity, compact design, and transportation options. However, a "sustainable community" is sometimes referred to in the literature as one that is continually adjusting to meet the social and economic needs of its residents and future residents.[13] Of particular importance to this research, some literature defines a sustainable community as one that can adapt to the needs of older residents. One example of this concept is FlexHousing™, an innovative approach to home design developed by CMHC that emphasizes accessibility and engineering to allow low-cost modifications that meet the needs of older residents.[14]

This report focuses on the smart growth concepts most relevant to seniors and to aging in place, such as pedestrian oriented land-use planning, transportation options, housing options, and community engagement. It does not address the elements of smart growth, sustainability, and livability that do not directly affect aging in place, such as green building design, environmental protection, historic preservation and farmland conservation.

---

[12] Sustainable Communities Network, "About Sustainable Communities," http://sustainable.org/information/aboutsuscom.html, accessed on October 25, 2006.

[13] UK Ministry of Communities and Local Government, "What is a Sustainable Community?", http://www.communities.gov.uk/index.asp?id=1139866, accessed on December 4, 2006.

[14] CMHC, "FlexHousing™ Adapts to Life's Changes," Abilities, Winter 2005, Issue 65, pp. 42–43.

IEc

CHAPTER 2: METHODOLOGY

IEc used a suite of mutually reinforcing qualitative research methods to explore how the concepts of smart growth and livable and sustainable communities support the built environmental needs of seniors to enable them to age in place.

During the first phase of the study, IEc conducted a literature review of approximately 40 resources, including journal articles, guidebooks, and other relevant works. Over the course of the project, we reviewed approximately 20 additional pieces of literature (see Attachment A for a complete bibliography). We found a large body of literature on the principles and implementation of smart growth and livable communities, and some literature on the implementation of sustainable communities. We also identified a sizable body of literature on aging in place. However, we identified few pieces of literature, from Canada or elsewhere, that explicitly connect the two topics, although implicit connections are common. For example, many sources on aging in place discuss the mobility challenges seniors face, but do not explicitly connect mobility issues to barriers posed by the built environment. By synthesizing information across available literature, IEc identified and categorized challenges in meeting the needs of older residents associated with land-use planning and the built environment in six key areas: neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in civic activities.[15] We used these six categories as an organizing principle throughout subsequent project phases.

Following the literature review, IEc and its subcontractors conducted two focus groups with senior residents in suburban areas of Montreal and Vancouver.[16] The focus groups were designed to collect input on the challenges of aging in place related to the built environment. Findings from the focus groups validated and expanded the findings of the literature review. The focus group protocol is included in Attachment B.

---

[15] For more information on the literature review, see *Smart Growth, Livable and Sustainable Communities for Seniors: Phase I Literature Review,* prepared for CMHC by Industrial Economics, Inc., December 5, 2006.

[16] IEc subcontracted focus group implementation to Gloria Gutman, a gerontologist at Simon Fraser University in Vancouver, and Luba Serge, a planner in Montreal. For more information on the focus groups, see *Smart Growth, Livable and Sustainable Communities for Seniors: Phase II Report on Focus Groups,* prepared for CMHC by Industrial Economics, Inc., January 3, 2007.

IEc

Subsequently, IEc developed case studies that illustrate how the principles, elements, and features of smart growth and livable and sustainable communities have been used by planners to meet the built environment needs of seniors. We used a series of criteria for collecting case studies, including:

- Illustration of at least two of six key areas of smart growth, livable and sustainable communities (e.g., walkability, transportation options, housing choices, access to services, safety, and community engagement);

- Primary focus on Canadian examples;

- Illustration of suburban planning retrofits; and

- Diversity of scale across case studies (e.g., regional, city, and neighbourhood level examples).

Case studies developed for the project and their primary themes are as follows:[17]

- Benny Farm, Montreal - central city housing redevelopment;

- Squamish, British Columbia-regional approach to directing growth downtown;

- Seattle, Washington - comprehensive senior services (including home repair, house sharing, and transportation);

- Dunedin, Florida - streetscape retrofit and bolstering senior services;

- Baltimore, Maryland - fall prevention home modification program;

- Atlanta, Georgia - public/private partnerships for accessible home certification program and other programming;

- Cornell, Markham, Ontario - New Urbanist housing development;

- Mississauga, Ontario - long-term land-use planning for aging populations;

- Regina, Saskatchewan - demographic research to inform senior "action plan;" and

- Oakridge Center, Vancouver, British Columbia- shopping mall to neighbourhood centre retrofit.

Finally, IEc developed a set of indicators to measure the extent to which a community's built environment benefits seniors' health, quality of life, and well-being. CMHC intends for local planners to use the indicator set as a tool for setting goals related to the built environment needs of an aging population, and for tracking progress against those goals. IEc interviewed 30 planners and other experts who provided feedback on the indicators, helping to refine them into a complete indicator set. IEc also conducted a pilot test of the indicators with the Squamish, BC and Mississauga, ON planning departments. More information on the process of developing and testing indicators, as well as findings from

---

[17] For more information on the case studies, see *Smart Growth, Livable and Sustainable Communities for Seniors: Phase IV Case Study Report,* prepared for CMHC by Industrial Economics, Inc., November 8, 2007.

IEc

this work, are presented in Chapter 4. Attachments C through F also contain materials related to the indicator development and testing process. [18]

---

[18] For complete information on the indicator development process, see *Smart Growth, Livable and Sustainable Communities for Seniors: Phase III Report On Indicator Development,* prepared for CMHC by Industrial Economics, Inc., July 5, 2007. and *Smart Growth, Livable and Sustainable Communities for Seniors: Phase V Report On Indicator Pilot Testing,* prepared for CMHC by Industrial Economics, Inc., November 29, 2007.

INDUSTRIAL ECONOMICS, INCORPORATED

IEc

CHAPTER 3: FINDINGS FROM LITERATURE REVIEW, FOCUS GROUPS, AND CASE STUDIES

This chapter presents a summary of findings from the literature review, focus groups, and case studies on the intersection of smart growth planning and aging in place. The chapter first presents overarching findings. Second, we present findings specific to the six key areas previously identified: neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in civic activities.

OVERARCHING FINDINGS

OVERARCHING FINDING # 1

> Most Canadian communities have made minimal progress in achieving smart growth and livability goals to date, and are thus ill prepared to accommodate the housing and mobility needs of an aging population. Government leadership is needed to make the smart growth, livability, and aging in place connection, and to push these issues to the forefront of public policy.

In November of 2007, the Office of the Auditor General of Canada published an audit of the federal government's progress on implementing sustainable development strategies, which encompass specific priorities related to building livable and sustainable communities as well as many other areas of sustainable development. The report found that federal government priorities for sustainable development have lacked continuity over the past 10 years. For example, building sustainable communities was called out as a specific priority in the 2001 and 2007 federal sustainable development strategy documents, but not in the 2004 strategy document. As the report explains, shifting federal government goals and strategies related to sustainable development, including sustainable communities, makes it difficult if not impossible to understand the long-term outcomes envisioned for these goals. We would add that goal shifting also garbles the message sent by federal agencies to provincial, regional, and local governments regarding federal priorities for sustainable communities. Moreover, lack of a consistent vision creates roadblocks for developing comprehensive, well-funded programs at the federal level to provide technical and other assistance to lower levels of government for implementing sustainable development policies, including policies to promote smart growth and livable and sustainable communities.[19]

---

[19] Office of the Auditor General of Canada, *2007 Report of the Commissioner of the Environment and Sustainable Development*, 2007, Exhibit 1.3: http://www.oag-bvg.gc.ca/domino/reports.nsf/html/c20071001c_e.html#ch1ex3.

INDUSTRIAL ECONOMICS, INCORPORATED

A 2005 CMHC report, *Smart Growth in Canada: Implementation of a Planning Concept*, found that Canadian communities are struggling to meet the smart growth goals included in formal growth management plans. Low density, car dependent development dominates Canadian metropolitan areas, and transit options are often inadequate. The housing stock is dominated by large, detached, single-family homes and land use patterns that are not conducive to walking or public transit. Researchers found some progress over time in increasing densities, but little progress in promoting mixed uses, and backsliding in the areas of housing affordability, housing diversity, and transportation options.[20]

Smarter growth has proven difficult for Canadian communities for a variety of reasons. The above report cited many barriers to smarter growth: lack of political will; the cumulative effect of regulations (e.g., zoning, building codes) in perpetuating low-density development; financial barriers; and consumer preferences. In addition, CMHC interviews of developers, politicians, and community leaders in 2000 indicated that political and community opposition to denser housing is strong, that government funding formulas subsidize the current development pattern, and that it can be challenging to find affordable and suitable land to develop in urban areas.[21]

Different places in Canada are experiencing different trends in aging, complicating the ability to chart a smart growth course for an aging population. Although two-thirds of Canadians reside in urban areas, small towns of a thousand to 2,500 residents tend to have higher proportions of senior residents.[22] Smaller, more rural towns have greater challenges in meeting the transit and service needs of seniors. A study conducted over the course of the 1990s indicates that localities aging more rapidly than others tend to have fewer economic advantages, again posing challenges to public investments in planning, transit, and services that seniors need.[23] These trends point to the need to dedicate national and provincial resources and coordination to address the needs of aging Canadians.

The literature contains many policy suggestions for pushing a smart growth agenda at different levels of government. In 2000, experts interviewed by CMHC recommended leveling the transportation playing field by changing the Income Tax Act to provide more funding to public transportation systems. They also recommended developing an international center of excellence on environmental remediation technology to address infill development barriers due to contamination in urban areas.[24] Lessons learned from

---

[20] CMHC, *Smart Growth in Canada: Implementation of a Planning Concept*, August 2005, p. 10.

[21] Canadian Housing Information Center, "Implementing Sustainable Community Development: Charting a Federal Role for the 21st Century, *Research Highlights*, December 2000, p. 3.

[22] CMHC, "Aging, Communities and Planning for the Future: A CMHC Literature Review," (Draft) April 2005, p.4, unpublished.

[23] Moore, E. and M. Pacey, Social and Economic Dimensions of an Aging Population (SEDAP), *Geographic Dimensions of Aging in Canada 1991-2001,* March 2003, p. 22.

[24] Canadian Housing Information Center, "Implementing Sustainable Community Development: Charting a Federal Role for the 21st Century," *Research Highlights*, December 2000, p. 5.

state-driven planning initiatives in the U.S. may be applicable to provincial planning in Canada. Examples include Florida's Communities for a Lifetime (CFL) initiative, which provides communities with technical assistance and funding to make civic improvements in housing, health care, transportation, accessibility, business, education, and the efficient use of natural resources. The program emphasizes local government self-assessment and planning to provide opportunities for people to age in place.[25] In addition, The Strategic Plan for an Aging California provides a potential legislative model to serve the needs of aging populations. Under this plan, California is evaluating its ability to deliver a wide variety of services to older residents.[26]

Beyond policy solutions, however, political leadership is needed to raise the profile of the aging in place and smart growth connection, to educate citizens about the conflict between aging in place and low-density land use patterns, and to illustrate how smarter growth can preserve independence and mobility for seniors. Currently, land use issues are often poorly understood by the general public and rarely connected to the widespread desire to age in place. If the general public supports the argument that smarter growth would enable preferences for aging in place, it would lend support for building more livable communities that benefit all residents.

OVERARCHING FINDING #2

> Certain tenets of smart growth and livable communities are especially important to seniors striving to remain independent members of their community: pedestrian friendly orientation of streetscapes, mixing of land uses, the availability of transit options and reduced reliance on automobiles, and the existence of an affordable and diverse housing stock.

Senior independence is predicated on mobility. In communities that lack transit options, pedestrian friendly streetscapes, and services within walking distance of homes, mobility is predicated on having a car and the ability to drive it. Many seniors lose the ability to drive or walk long distances as they age.   Hence, low density, car dependent communities are not conducive to responding to the physical changes of aging. Several key resources speak to the connection between multiple facets of smart growth and

---

[25] State of Florida, Communities for Lifetime Initiative, http://www.communitiesforalifetime.org/what.html, accessed August 8, 2007.

[26] CMHC, "Aging, Communities and Planning for the Future: A CMHC Literature Review," (Draft) April 2005, p. 23, unpublished.

livable communities, and the needs of senior citizens striving to age in place.[27] The common theme across this literature is that the suburban, low-density land-use pattern predominant in Canada is mismatched with the needs of older residents because:

- Low-density areas are typically car dependent and generally lack good transit options. In contrast, smart growth and livable community advocates call for pedestrian-oriented streetscapes and widespread availability of transit.

- Suburban streets are often unwalkable; sidewalks are not contiguous or do not exist, and pedestrian crossings are inconvenient and in many cases unsafe. In contrast, smart growth and livable community advocates call for streetscapes that are planned for pedestrians.

- Access to shopping and essential services (banking, healthcare, etc.) in suburban areas is often made more difficult by wide distances separating buildings, further hindering pedestrian access. In contrast, smart growth and livable community advocates call for higher densities and mixing of land uses (e.g., commercial/retail, residential, and recreational uses in close proximity) to enable walking from place to place.

- Housing alternatives that meet senior needs with respect to affordability and access to community are often not available in suburban areas. In contrast, smart growth and livable community advocates call for a diversity of housing options, including condominiums and town homes, focused around more compact spaces that are connected to the rest of the community. Smart growth and livable community concepts also promote the inclusion of housing and other uses in the same building or block, and allow for arrangements such as granny flats and accessory apartments. [28]

Over the past two decades, some North America cities have addressed the issues associated with urban sprawl through more comprehensive and coordinated municipal and regional planning. For example, metropolitan Vancouver has enacted a series of initiatives, including the Livable Region Strategic Plan, to manage growth through regional housing and transportation planning. The policies resulting from these initiatives

---

[27] These sources include: AARP Public Policy Institute, Livable Communities: An Evaluation Guide, 2005. Ball, M.S., *Aging in Place: A Tool Kit for Local Governments,* Community Housing Resource Center (undated). Dalrymple, E., *Aging in Place: Making Communities More Livable for Older Adults,* Partners for Livable Communities and the National Association of Area Agencies on Aging, 2005. Howe, D., Aging and Smart Growth: Building Aging-Sensitive Communities, Translation Paper Number Seven, Funders' Network for Smart Growth and Livable Communities, December 2001. International City/County Management Association, *Active Living for Older Adults: Management Strategies for Healthy and Livable Communities,* September 2003.

[28] Recent research by CMHC shows that intergenerational living arrangements, (e.g., granny flats, homesharing) can provide positive experiences for seniors and other family members, although all participants must be sensitive to privacy and other issues that may cause friction. In addition, CMHC found that regulatory limitations imposed by municipal zoning currently impede homesharing and similar living arrangements. CMHC, "Intergenerational Homesharing and Secondary Suites in Québec City Suburbs," *Research Highlight*, November 2006. See CMHC, "Seniors' Housing for Seniors: A Feasibility Study," *Research Highlight*, November 2006, for additional information on costs of converting single-family housing to secondary suites and the impact of zoning restrictions on the feasibility of conversions.

have led to modest increases in density, mixed-use development, and green infrastructure such as bikeways and walking paths.[29] However, local policies that specifically connect smart growth to the needs of older residents are relatively new and still rare. In one notable example, the City of Mississauga is developing an Older Adult Plan to guide future City actions to support aging in place. The plan will serve as a roadmap for the implementation of policy changes designed to improve quality of life for seniors.[30]

OVERARCHING FINDING #3

> Many planning and zoning changes needed to facilitate housing strategies that meet smart growth and livable community goals are the same as those needed to support aging in place.

Although many Canadian seniors want to stay in their homes as they grow older, their homes are often single-family units in low density, suburban locations, a living arrangement that can isolate seniors once they are unable to drive or walk longer distances. As mentioned above, diversity of housing choice is a key tenet of smart growth and livable communities that has particular resonance for an aging population.

Senior access to critical services is facilitated by mixing of land uses in close proximity and in a pedestrian-friendly layout. For example, two senior housing projects in Everett, Washington, were built next door to a senior center. Within the area, seniors can access pharmacies, grocery stores, and retail shopping. Medical services, including hospital care, are also located within a 12-block radius.[31]

To facilitate aging in place, Canadian communities will need also to focus on building a concentration of housing in infill areas. For example, the Benny Farm site in Montréal, which is featured as a case study for this project, is being redeveloped on an infill site (previously a World War II era veterans' housing site) located within the heart of the city, close to public transportation and services. When the site is complete, two community centres will be located within walking distance to the senior residences. This will allow seniors living at Benny Farm to have easy access to both recreational and health care facilities.[32]

The development of an adaptable housing stock can also help to facilitate aging in place. One example, CMHC's FlexHousing™ initiative, revolves around three core principles—

---

[29] CMHC, *Smart Growth in Canada: Implementation of a Planning Concept*, August 2005, pp. 20-48.

[30] Mitcham, P., Commissioner of Community Services, City of Mississauga, Corporate *Report: Older Adult Plan,* June 2007.

[31] Howe, D., *Aging and Smart Growth: Building Aging-Sensitive Communities, Translation Paper Number Seven,* Funders' Network for Smart Growth and Livable Communities, December 2001, p. 9 and Ball, M.S., *Aging in Place: A Tool Kit for Local Governments,* Community Housing Resource Center, (undated) pp. 11-12.

[32] Canada Lands Company, Benny Farm Redevelopment: *A Project for the Community*, September 2003. Canada Lands Company, *Redevelopment of the Benny Farm Site: a history, a community, a project*, DVD (undated).

accessibility, adaptability, and affordability—and provides for a wide range of housing options, including single-family homes, apartments, and condominiums. FlexHousing™ minimizes the need for specialized housing or expensive renovations by incorporating safety and flexibility in the planning and design of homes. For example, a home designed with FlexHousing™ principles allows for the easy conversion of a family room to a bedroom if the residents' needs change over time. In addition, FlexHousing provides safety and security for aging residents through design features such as wide doorways, easy-to-grasp handles, and non-slip floors.[33]

Several planning and zoning changes are needed to facilitate scale up of these smart growth and age inclusive housing concepts. Local political and planning systems are often geared towards low-density development, and several clear planning and zoning obstacles stand in the way of developing dense housing in infill areas. Standard planning requirements such as minimum lot size, setback, and parking requirements are designed for auto dependent land use and directly hinder denser housing development. Conventional zoning precludes development of new smart growth housing options (e.g., townhouses, condominiums, etc.) in many areas. In addition, the development of secondary, or "in-law" apartments, which are sometimes used by caregivers of seniors, or by seniors living in their children's homes, is often precluded by zoning codes that allow for only single-family units in many areas. Similarly, zoning often precludes converting existing single-family homes into multi-unit homes.[34] A CMHC study examined the implications of adding these secondary suites to existing single-family houses in Quebec City's older suburbs. Urban planners participating in the study noted that the introduction of secondary suites in older suburbia could result in a number of benefits, including increased housing choice; neighbourhood rejuvenation; improved use of existing infrastructure through residential intensification; and the preservation of the existing housing stock.[35]

In contrast, smart growth zoning codes encourage dense development by allowing mixing of land uses, diversity of housing types, smaller lot sizes, and narrower, shorter streets. Smart growth zoning also typically requires sidewalks and safer crossings. One particularly intensive form of mixed-use development is the planned unit development

---

[33] CMHC, "FlexHousing™ Adapts to Life's Changes," *Abilities*, Winter 2005, Issue 65, pp. 42-43.

[34] Canadian Housing Information Center, "Implementing Sustainable Community Development: Charting a Federal Role for the 21st Century," *Research Highlight*, December 2000, p. 3. ""Aging in Place," Presentation from Workshops at Simon Fraser University, 1997, http://www.justshelter.com/seniors/options/retire/aging.htm#aging, accessed on October 1, 2006, "What hinders and what helps in providing supportive housing for seniors" section. International City/County Management Association, *Active Living for Older Adults: Management Strategies for Healthy and Livable Communities*, September 2003, p.13.

[35] CMHC, "Intergenerational Homesharing and Secondary Suites in Québec City Suburbs," *Research Highlight*, November 2006.

(PUD) approach, which makes retail and other services available within the housing complex itself, greatly minimizing distances between residences and services.[36]

In addition to modifying zoning to remove barriers to smart growth, local governments can employ tools such as inclusionary zoning, density bonuses, and traditional neighbourhood design zoning overlays to encourage development of dense, age-sensitive infill housing. These tools are also commonly used to encourage affordable housing by reserving a percentage of new housing units for low- and mid-income individuals and families.[37] For example, the City of Stratham, New Hampshire modified its zoning code to create an "affordable senior housing zone," which removes minimum lot sizes applicable to the rest of the community and encourages building smaller, denser units.[38]

Finally, CMHC is researching the Fused Grid model, which combines features of conventional and traditional street patterns. The model uses a combination of large-scale grid of collector streets carrying moderate-to-high speed traffic and smaller blocks of crescents and cul-de-sacs to eliminate traffic. In addition, a continuous open space pedestrian path system provides direct access to parks, public transit, retail, and community facilities. The Fused Grid concept reduces the amount of land consumed by roads, allowing for more green space, increases car and pedestrian safety, and minimizes environmental impacts. The implementation of this concept may better accommodate the aging of future generations.[39]

OVERARCHING FINDING #4

> Collaboration between government and the private sector can be an effective strategy for implementing plans to improve seniors' quality of life.

Government is in a position to influence private land development to meet smart growth objectives and the needs of an aging population. In addition to the traditional tools of planning and zoning, development incentives such as infrastructure investments and tax provisions allow government agencies to steer development towards compact, mixed-use forms. In addition, government agencies can partner with private developers to construct homes with seniors in mind. Examples of successful public-private development partnerships include the Atlanta Regional Commission's (ARC's) EasyLiving Homes Coalition, which is the U.S.'s first voluntary certification program for homes that are safe

---

[36] CMHC, "Determining the Implications of Population Aging for Housing and Residential Communities: Discussion Paper #2: Validating and Extending What was Learned from the Initial Literature Review (through Expert and Practitioner Views)," June 30, 2005, p. 29, unpublished.

[37] Ball, M.S., *Aging in Place: A Tool Kit for Local Governments,* Community Housing Resource Center, (undated), pp. 11-12.

[38] National Association of Area Agencies on Aging, *The Maturing of America - Getting Communities on Track for an Aging Population*, September 2006.

[39] Frank, L. and C. Hawkins, Fused Grid Assessment: Travel and environmental impacts of contrasting pedestrian and vehicular connectivity, submitted to CMHC, November 2007.

INDUSTRIAL ECONOMICS, INCORPORATED

and accessible to all members of society. As explored in the case study on ARC, the organization and its partners work to identify and train builders on how to make homes more accessible through small improvements that add little cost to construction.[40]

Collaborating with the private sector can also be an effective approach to delivering services to the senior population. For example, Seattle Senior Services, which is also featured in the project's case studies, works with private firms and individuals to provide a suite of important services ranging from transportation to home maintenance and renovation to senior residents of Seattle and Kings County, Washington.[41]

For public-private partnerships to be successful, the goals and outcomes of the partnership must benefit the business partner, the organizing agency, and most importantly, the senior population. In addition, institutional structures can facilitate the development of collaborations between business, non-profit, and public sectors. In the U.S., Area Agencies on Aging (AAAs) serve as regional coordinating bodies responsible for developing multi-year plans to meet the needs of area seniors. The AAA's seek to foster regional solutions (often through private/public partnership programs) to create communities that allow seniors to live independent lives. Currently, Canada does not have an equivalent institutional infrastructure to coordinate services for seniors.

FINDINGS SPECIFIC TO KEY AREAS

This section presents findings associated with meeting the built environment needs of older residents through land-use and community planning in six key areas: neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in civic activities.

NEIGHBOURHOOD WALKABILITY

> Smart growth streetscape planning for seniors must include attention to small details that, in combination, have significant impacts on the ability of older residents to take advantage of pedestrian routes. Planning for walkable communities is an important component in allowing seniors to live independently. Design plans that feature walkability create safe environments for seniors, facilitate community engagement, reduce feelings of isolation, and promote active lifestyles – all of which are essential for successful aging in place.

Smart growth and livable community approaches dictate that streetscapes are designed on the human scale and are pedestrian friendly. To fully meet the needs of an aging population, not only do streetscapes need to be generally pedestrian friendly and

---

[40] Kelley, M., "How the Aging Network Can Work with Business: An Overnight Success After Thirty Years," *Generations*, American Society on Aging, Winter 2004-2005.

[41] Seattle Senior Services, *Report to Community 2006*, 2006.

INDUSTRIAL ECONOMICS, INCORPORATED

walkable, but additional considerations and features must also be incorporated.[42] The literature includes many examples of streetscape details that can make the difference between mobility and isolation for older residents:

- **Safer crosswalks:** Strategies for creating safer crosswalks include using reflective crosswalk paint and raised crossings/speed bumps; programming signals for longer walk durations; providing audio cues at crossings; and taking other actions to minimize potential conflicts with automobile traffic.

- **Better sidewalks:** Strategies for making sidewalks more inviting include ensuring adequate width so that two people can walk side by side; keeping sidewalks well maintained and free of obstructions (e.g., overgrown vegetation); and using no-slip materials (e.g., high tech rubber sidewalks).

- **Better visibility:** Ensuring adequate illumination at night, for example by supplementing overhead lighting with low-level lighting that highlights ground features, and using lighting that is incorporated into design features, helps to orient seniors. Increasing signage, and using larger lettering on street and business signs, also helps older residents to get where they want to go.

- **Resting places:** Providing benches and other resting places, and areas of shade and shelter, enables more seniors to take advantage of pedestrian routes. In addition, ensuring access to public restrooms in densely populated areas is also recommended.

Several local examples of age inclusive streetscape planning illustrate how to achieve walkability for all residents. For example, in Vancouver, the Mount Pleasant Wellness Walkways program retrofits and enhances existing streetscapes and open spaces to improve safety, walkability, aesthetics, and social interaction along the streets of the Mount Pleasant neighbourhood. The program has successfully incorporated many of the design elements enumerated above through an inclusive participatory design process.[43] In addition, the City of Dunedin, Florida used GIS mapping to identify areas in need of improvements in accessibility and safety. The resulting Action Plan set priorities for

---

[42] The literature on streetscape planning that meets the needs of older citizens includes: AARP Public Policy Institute, *Livable Communities: An Evaluation Guide,* 2005, pp. 48-49. Burton, E. and L. Mitchell, *Inclusive Urban Design: Streets for Life,* Architectural Press, 2006. CMHC, "Aging, Communities and Planning for the Future: A CMHC Literature Review," (Draft) April 2005, pp. 16-23. Dalrymple, E., *Aging in Place: Making Communities More Livable for Older Adults,* Partners for Livable Communities and the National Association of Area Agencies on Aging, 2005, pp. 22-23, 40-42, 85-93. Howe, D., *Aging and Smart Growth: Building Aging-Sensitive Communities, Translation Paper Number Seven,* Funders' Network for Smart Growth and Livable Communities, December 2001, p. 5-8. International City/County Management Association, *Active Living for Older Adults: Management Strategies for Healthy and Livable Communities,* September 2003, pp. 8-11. Frank, L. and C. Hawkins, *Fused Grid Assessment: Travel and environmental impacts of contrasting pedestrian and vehicular connectivity,* submitted to CMHC, November 2007.

[43] City of Vancouver, Community Services, Planning Department, "City of Vancouver, Mount Pleasant Wellness Walkways," (undated).

sidewalk improvements, sign height adjustments, and other modifications to enhance connections for seniors throughout the city.[44]

The ultimate streetscape program can be found in the City of Hamilton, Canada, which pioneered a streetscape marking system that, in addition to incorporating all of the above streetscape features, includes a "Braille" system to help seniors and visually impaired residents navigate throughout the city's downtown area. This system represents the state-of-the-art in streetscape planning for universal access. It uses a series of different surface textures to communicate the delineation of sidewalks, pathways, bus stops, entranceways, and curbs. These textures can be felt by foot or by cane, and are uniform throughout the downtown area. [45]

TRANSPORTATION

> The smart growth emphasis on widespread transit availability facilitates aging in place, although age sensitive transit features are needed to make seniors feel safe and comfortable using transit systems. Without better public transportation service, older seniors will continue to drive to meet their transportation needs, even if driving is stressful.

In general, high population density is a prerequisite for public transportation. In fact, subway and trolley service is generally not affordable from a fiscal perspective at low housing densities. Research conducted in the U.S. shows a direct relationship between population density, public transportation use, and senior isolation. In other words, seniors who live in denser areas are more likely to have access to and take advantage of transit, and are therefore more likely to interact with the community. Seniors in the U.S. living in communities with 25,000 residents or more report a 58% rate of occasional transit use, compared to a 38% rate of transit use for seniors who live in communities with 10,000 to 25,000 people, and a 5% rate of occasional transit use for seniors living in communities with a thousand or less residents. Seniors in the U.S. living in communities with 25,000 people per square mile report staying home 43% of the time, compared to 61% of the time for seniors who live in communities with a thousand residents or less.[46]

For transit systems to accommodate the needs of seniors (i.e., people 65 years old or more), however, they need to be accessible and convenient. The focus group participants indicated a preference for driving as opposed to other transit options, even though many of them found driving to be stressful. The preference for driving was evident even in areas where public transit was accessible. The participants indicated that perceived

---

[44] Cummings, P., City of Dunedin, Florida, 2007 National Aging I&R/A Symposium, Presentation, May 2007.

[45] Tomic, S., Canadian Institute of Planners, "Hamilton Urban Braille System: Urban Design for an Aging Society," *Plan Canada*, Spring 2003.

[46] Bailey, L., *Aging Americans: Stranded Without Options*, Surface Transportation Policy Project, April 2004, p. 9.

INDUSTRIAL ECONOMICS, INCORPORATED

problems with public transportation (e.g., access issues, lack of service, confusing signage, and poor lighting) prevented them from using these services.

Transit systems can accommodate senior needs by minimizing stairs in stations and in entryways to trains and buses, and by facilitating wheelchair access. Many transit systems are geared towards servicing a workforce during working hours, and provide less service to non-work destinations and during off-peak hours. For transit systems to be convenient for seniors, they must provide service to places that seniors want to go, and provide adequate service during off-peak times (e.g., mid-morning and mid-afternoon).[47] In addition, minimizing transfers and ensuring that the transit system stops at locations that are frequented by seniors, such as medical facilities and religious institutions, encourages senior ridership.[48] For example, Phoenix, Arizona's Central Station provides a one-stop transit hub that allows passengers to choose from 12 local bus routes or service to downtown. The Central Station also has well-marked bathrooms, information services, and rest areas.[49]

Transit systems must also be easily understood by seniors. *The AARP Livable Communities Evaluation Guide* notes that routes that are not well marked or not easily learned can be very confusing to older residents, and will discourage senior ridership. It is also important that transit systems announce major stops to help seniors and the visually impaired; this is best accomplished with automated announcements.[50] In addition, having convenient and easy to understand schedules also helps seniors take advantage of transit options.

Finally, locating services that seniors use (e.g., medical facilities, grocery stores, pharmacies, and banking) in very close walking distance to a transit stop will make it more likely that seniors are able to use transit to access these services.[51]

> Seniors who should not drive, but do because they do not have other transportation options, pose a risk to themselves and others. Smart growth planning mitigates the need for seniors to drive.

Because of the direct link between driving and mobility in low-density communities, many seniors in such communities continue driving for as long as possible. Current

---

[47] Kochera et al., *Beyond 50.05 A Report to the Nation on Livable Communities: Creating Environments for Successful Aging*, AARP Public Policy Institute, May 2005, p. 81.

[48] AARP Public Policy Institute, *Livable Communities: An Evaluation Guide,* 2005, p. 25.

[49] Kochera et al., *Beyond 50.05 A Report to the Nation on Livable Communities: Creating Environments for Successful Aging*, AARP Public Policy Institute, May 2005, p. 86.

[50] AARP Public Policy Institute, *Livable Communities: An Evaluation Guide,* 2005, pp. 23-25.

[51] It should be noted that some seniors are too frail or incapacitated to use public transit systems, despite the accommodations described above. Seniors who are unable to use fixed route transit need options such as escort transit and paratransit to maintain their mobility.

research projects a dramatic increase in the number of seniors aged 65 and over who will hold drivers licenses in British Columbia.[52] In addition, a U.S. transportation survey found that 73% of older Americans continue to drive. Seniors tend to give up driving incrementally; surveys indicate that a majority of seniors over the age of 75 reported that they avoid night driving and rush-hour traffic, but still drive under normal conditions.[53] Reflecting these trends, the majority of the participants from both focus groups indicated that they drive on a regular basis (i.e., more than once a week). These individuals suggested that driving has become more stressful as they age, and many have made changes to their driving habits (e.g., no driving at night or during rush hour).

Unfortunately, older drivers suffer disproportionate injuries in auto accidents; a U.S. study showed that drivers over the age of 85 have an accident fatality rate nine times higher than younger drivers per mile driven.[54] Providing older residents with a built environment that allows them to stop driving while maintaining independence and mobility would reduce the number of seniors and others injured or killed in automobile accidents.

Moreover, communities that embrace walkability and public transit are more likely to retain their senior residents. While the majority of seniors move to retirement housing because of other primary factors, ease of access to transportation is one factor that may play into the decision to move.[55]

Some municipalities are taking proactive approaches to improve walkability, increase public transportation, and decrease automobile reliance. Several of the communities highlighted in the project's case studies (e.g., Cornell, Dunedin, Mississauga) have developed community plans around the concept of building walkable, human-scale neighbourhoods that minimize the need for driving. The Squamish-Lillooet Regional District Council is developing a regional plan that emphasizes attractive transportation options beyond the automobile. Potential improvements include bike paths, walking trails, and improved bus service. The Plan also provides for development of a safe, pedestrian-friendly character for downtown and a comprehensive network of trails for commuting and recreation.[56]

---

[52] Wister et al., *Older Drivers in British Columbia: Predicting Future Patterns and Assessing Strategies for Prevention of Accidents, A Report for the Insurance Corporation of British Columbia's SMART Program,* 2000.

[53] Hendrickson, C., and W. Mann, "Changes Over Time in Community Mobility of Elders with Disabilities," *Physical & Occupational Therapy in Geriatrics,* 23(2/3), 2005, p. 77.

[54] Bailey, L., *Aging Americans: Stranded Without Options*, Surface Transportation Policy Project, April 2004, p. 3. CMHC, "Determining the Implications of Population Aging for Housing and Residential Communities: Discussion Paper #2: Validating and Extending What was Learned from the Initial Literature Review (through Expert and Practitioner Views)," June 30, 2005, p. 21.

[55] Hendrickson, C., and W. Mann, "Changes Over Time in Community Mobility of Elders with Disabilities," *Physical & Occupational Therapy in Geriatrics,* 23(2/3), 2005, p. 77, p. 78.

[56] For more information on these case studies, see *Smart Growth, Livable and Sustainable Communities for Seniors: Phase IV Case Study Report,* prepared for CMHC by Industrial Economics, Inc., November 8, 2007.

SAFETY

> Many seniors harbor concerns about crime and personal safety that need to be taken into consideration when promoting walking and public transportation.

For seniors, safety issues associated with increased walking and use of public transportation include both the fear of crime and the fear of falling. Building compact and mixed-use projects helps create pedestrian traffic around the clock, which can help to address crime concerns. However, a smart growth and livable communities strategy needs to include attention to personal safety issues in order to make seniors comfortable walking around their community, especially at night and during inclement weather.

In general, the focus group participants for this project felt safe walking in their neighbourhood during the day; however, a majority found walking at night to be unsafe. The *AARP Livable Communities Evaluation Gui*de provides concrete planning recommendations for facilitating walking at night. Some of these recommendations are the same as those that address general safety concerns, such as ensuring adequate lighting and keeping vegetation from overgrowing public spaces. Use of reflective materials and other safety features at crossings also reduces the incidence of auto/pedestrian accidents at night. Specific suggestions related to crime prevention include minimizing potential entrapment areas, posting neighbourhood watch signs, and installing police call boxes.[57] For example, in response to community concerns regarding slow emergency response times (as a consequence of urban sprawl), Cuyahoga Falls, Ohio, embarked on a Light Bulb Giveaway Program, which provided free strobe-type lights to seniors to place on their homes. When turned on, the flashing bulbs immediately alert emergency crews to the house with the emergency issue. This successful program has reduced emergency response time and has been heralded as a cost-effective means to increase the security of seniors.[58] In addition, ICMA guidance refers communities to resources on Crime Prevention Through Environmental Design, which is a planning approach that uses design elements to discourage crime.[59]

In addition, the focus group participants emphasized that ice, snow, and inclement weather were most significant impediments to walking during the winter months. Municipalities that take direct responsibilities for clearing of snow and ice, instead of passing responsibility to landowners, can increase independence and mobility for seniors during the winter.

---

[57] AARP Public Policy Institute, *Livable Communities: An Evaluation Guide,* 2005, pp. 63-71.

[58] Dalrymple, E., *Aging in Place: Making Communities More Livable for Older Adults,* Partners for Livable Communities and the National Association of Area Agencies on Aging, 2005, pp. 152-153.

[59] International City/County Management Association, *Active Living for Older Adults: Management Strategies for Healthy and Livable Communities,* September 2003.

> Communities that provide for a range of housing choices are better equipped to deal with aging populations. A well-diversified and affordable housing stock provides seniors with options in event that they can no longer live in their current residences.

Overwhelmingly, the participants from both focus groups indicated a strong desire to stay in their current homes as long as possible. However, if forced to move from their current residence, the seniors pointed to affordability as a key problem in finding new housing. The participants were keenly aware of the high cost of new housing opportunities in the area; most felt that they could not afford to move to a new seniors development. In addition, participants noted renter fears of being evicted from housing in the city centre due to rising rents. In addition to housing costs, both groups mentioned the hidden costs associated with assisted living and support services.

Recent research has demonstrated a link between the accessibility of housing and positive well-being among seniors.[60] Some Canadian communities, such as Cornell, in Markham, Ontario, have made a commitment to develop a diversity of housing types, including bungalows, apartments, and granny suites, which facilitates long-term aging in place for seniors.[61] In addition, developing adaptive housing designs, such as the type developed at the Benny Farm redevelopment site in Montréal, will allow aging senior residents to remain in their homes as their needs change.[62]

In addition, it is often not necessary to move seniors from existing homes to seniors housing or single floor housing to reduce falls; modifications to existing homes and continued monitoring is a very effective alternative strategy. However, many seniors lack the experience and resources to initiate modifications to their homes and lifestyles without assistance. Programs such as Baltimore's Safe at Home program, profiled in the project's case studies, provide seniors with comprehensive assistance with home modification and repair. The Safe at Home program demonstrated that seniors were willing to make these changes when given the proper opportunity, advice, and funding. Moreover, the program significantly reduced the incidence of falls at home among participants.[63]

---

[60] Oswald et al., "Relationships Between Housing and Healthy Aging in Very Old Age," *The Gerontologist,* 47:96-107, 2007.

[61] City of Markham, Planning and Urban Design Department, "Open House Presentation on Cornell Secondary Plan Review," May 2002.

[62] Canada Lands Company, Benny Farm Redevelopment: *A Project for the Community*, September 2003.

[63] Merles, P., Director, South East Senior Housing Initiative, Testimony to United States Senate, Hearing on Elderly Fall Prevention, Committee on Health, Education, Labor, and Pensions, Subcommittee on Aging, June 11, 2002.

ACCESS TO SERVICES

> In order to live full and independent lives, seniors need to be able to access basic services such as health care, grocery stores, retail shopping, community facilities, and other recreational opportunities.

Recent research has found that neighbourhood design appears to be an important aspect of sustaining the accessibility of older people. Accessible neighbourhoods, particularly those close to grocery stores, tend to promote walking trips among seniors. In particular, the shorter the distance to the closest grocery store, the higher the frequency of walking to the store.[64] Similarly, the focus groups identified access to services such as grocery stores, retail shopping, and medical care as an important component to successfully aging in place. Interestingly, participants from both focus groups conducted for this project lamented the loss of local grocery stores. For many of the group members, a once walkable trip to the grocery store now requires a more costly trip via car or bus to purchase food and other essentials.

Communities are beginning to rework their planning and zoning codes to design for better access to services. For example, Mississauga's new planning framework document explicitly highlights developing neighbourhoods that provide readily available access to services.[65] In addition, the new downtown plan for Squamish emphasizes the development of affordable housing in proximity to basic services.[66]

COMMUNITY ENGAGEMENT

> Senior isolation due to a lack of mobility has negative economic and civic impacts that can be avoided with smart growth planning.

Senior citizens play a key role in their communities. Per capita, elder citizens contribute the most hours to volunteer work, and are generally active in local government and civic affairs.[67] Older residents often have time and expertise to lend to community life. Older citizens also contribute to the community economically, through spending at local businesses and through local property taxes.

---

[64] Cao et al., *Neighbourhood Design and Aging: An Empirical Analysis in Northern California*, Upper Great Plains Transportation Institute, 2007.

[65] Mitcham, P., Commissioner of Community Services, City of Mississauga, Corporate *Report: Older Adult Plan,* June 2007.

[66] Smart Growth on the Ground, *A Sustainable Vision for Downtown Squamish,* 2005, http://www.sgog.bc.ca/uplo/SqNews2.pdf, accessed July 11, 2007.

[67] Hall et al., *Caring Canadians, Involved Canadians: Highlights from the 2004 Canada Survey of Giving, Volunteering and Participating*, Imagine Canada, 2006, pp. 34-35.

The forthcoming generation of senior citizens, the baby boom generation, is expected to be the most vital generation of senior citizens yet, with enormous potential to make contributions to their communities. Baby boomers are a historically socially and civically active demographic group. Compared to former generations, this generation of seniors is better educated, and baby boomer seniors are expected to be in better health and live longer than the current generation of seniors. This generation also controls substantial net worth, with higher levels of disposable income than previous generations of seniors. [68]

A community that is designed to support senior mobility can take advantage of the talents and potential contributions of its seniors. Smart growth and livable development supports the role of older citizens in contributing to economic and community life. For example, the Penn South Housing Co-op in New York City encourages interaction between older and younger residents by placing design elements such as children's playgrounds near sitting areas and assigning garden plots to mixed teams of younger and older residents. [69]

In addition, if seniors can walk to their local store or take transit into town, they are far more likely to continue previous rates of discretionary spending, and continue to engage in civic life. In contrast, seniors who are not able to leave the home cannot participate in this way, and may ultimately be faced with the decision to leave their community in order to have their mobility needs met. Data suggest that seniors with access to public transportation are more likely to leave the home on any given day than seniors without access to public transportation. [70]

The smart growth and livable communities movements stress the importance of community involvement, including elder involvement, in developing land use plans for their communities. Older residents often have a historical view of their community and can contribute valuable information to planning processes. Older residents can help identify general planning priorities as well as priorities that specifically affect older residents. For example, the AARP Active for Life program teams with local governments to utilize its membership in community walkability and other assessments that inform smart growth planning. [71]

Community involvement in the planning process is also critical to the success of development projects. While working with community members may add time and expense to a project, it ensures that all parties have a stake in a positive outcome, and increases the prospects for long-term success. Through workshops, focus groups, and community gatherings, municipalities can create a positive working environment that fosters the generation of new ideas to address the needs of seniors, as well as others in the community. For example, on the Benny Farm redevelopment project, the extensive

---

[68] AARP Public Policy Institute, *Livable Communities: An Evaluation Guide,* 2005, p. 14.

[69] Ball, M.S., *Aging in Place: A Tool Kit for Local Governments,* Community Housing Resource Center, (undated), p. 25.

[70] Turcotte, M., "Seniors' Access to Transportation," Statistics Canada, Catalogue No. 11-008, Winter 2006.

[71] International City/County Management Association, *Active Living for Older Adults: Management Strategies for Healthy and Livable Communities,* September 2003, p. 7.

consultation process resulted in a new development plan that was supported by both developers and community residents, in contrast to the negative reception given to a previous plan that lacked community involvement.[72]

---

[72] Canada Lands Company, Benny Farm Redevelopment: *A Project for the Community*, September 2003. Canada Lands Company, *Redevelopment of the Benny Farm Site: a history, a community, a project*, DVD (undated).

CHAPTER 4: FINDINGS FROM INDICATOR DEVELOPMENT AND TESTING

IEc developed a set of indicators to measure the extent to which a community's built environment benefits seniors' health, quality of life, and well-being. This chapter presents the methodology and data sources used to develop preliminary indicators, along with the process employed to refine the indicators through interviews with experts and pilot testing with two communities. It includes a final indicator table incorporating all refinements and a self-assessment scoring approach that communities can use to set goals and measure progress against them.

PRELIMINARY INDICATOR DEVELOPEMENT

We began this effort by reviewing the literature to identify previously developed indicators of smart growth and livable communities, and quality of life for older populations. Key general sources used in the development of the preliminary list of indicators include:

- *Livable Communities: An Evaluation Guide*: Published by the AARP in 2005, this is a second version of the *Guide*, which was first published in 2000. It uses a survey format that offers communities a series of self-assessment questions focusing on quality of life topics such as transportation, walkability, safety, shopping, housing, health services, and recreation.[73]

- The Center for Home Care and Policy Research, AdvantAge Initiative, Program Information: The AdvantAge Initiative uses consumer-driven data to inform community planning. Its website contains a survey instrument with 33 indicators that communities can use to measure how well they are meeting the needs of older residents.[74]

- Environment Canada's Sustainable Community Indicators Program Guidelines: This document provides guidelines to help communities or organizations develop indicators of sustainability and establish a sustainability indicators program.[75]

---

[73] AARP Public Policy Institute, *Livable Communities: An Evaluation Guide,* 2005.

[74] Center for Home Care and Policy Research, Visiting Nurse Service of New York, "The AdvantAge Initiative," http://www.vnsny.org/advantage/index.html, accessed on October 1, 2006.

[75] Environment Canada, *Guidelines for the Development of Sustainability Indicators*, Sustainable Community Indicators Program (SCIP), August 2001.

- *Beyond 50.05*: This AARP report provides a series of recommendations to improve the livability of communities, including recommendations on housing options, community design, transportation options, and civic engagement.[76]

In addition to these and other general sources, we also consulted literature specific to individual topics such as transportation, housing, safety and physical activity.

After reviewing the literature, we used the six issue areas previously identified (neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement) as an organizational framework for the preliminary set of indicators. For each of these categories, we developed up to six separate indicators intended to measure aspects and elements of a community that are of particular benefit to the health, quality of life, and well-being of older citizens. In some cases, we adjusted the indicators to address issues specifically identified as important to quality of life by seniors during the focus groups (e.g., location of grocery stores). Attachment C provides the table of preliminary indicators by category.

INTERVIEW PROTOCOL AND RESPONDENTS

After completing the preliminary list of indicators, we established a written protocol to solicit feedback from planners and other key informants.   The protocol requested that respondents identify the indicator(s) from each category (i.e., housing choice, safety) that would be most useful for measuring a community's responsiveness to meeting the needs of older residents. For those indicators selected, the protocol requested that the reviewers provide suggestions on ways to clarify or improve the indicator. Respondents were also asked if they would suggest additional indicators. Finally, we asked respondents to provide information on potential data sources for the previously identified indicators.

In addition to questions regarding the preliminary indicators, we also asked respondents to provide some general observations to help inform the study as whole. Specifically, we inquired as to: 1) their opinions on successful planning tools and strategies for addressing the needs of older citizens, as well as specific measures implemented to benefit the health, quality of life, and well-being of the senior population; and 2) potential case studies that may warrant future research. Attachment D presents the full text of the interview protocol.

With the assistance of CMHC, IEc developed a list of potential interviewees to participate in the study. Potential respondents represented a wide-range of expertise in community planning, urban design, gerontology, health and human services, and other related fields. At the request of CMHC, we placed an emphasis on locating experts with planning backgrounds.   In December 2006, IEc sent an e-mail introducing the study, the preliminary indicator table, and the interview protocol to 40 potential respondents in Canada, the United States, the United Kingdom, and Australia. Respondents were given

---

[76] Kochera et al., *Beyond 50.05 A Report to the Nation on Livable Communities: Creating Environments for Successful Aging*, AARP Public Policy Institute, May 2005.

the option to answer the questions directly via email or conduct a phone interview with IEc.

By the conclusion of our outreach efforts in mid-March 2007, the protocol and indicators table had been sent to 82 potential respondents. We received responses from 30 respondents, 19 of whom described themselves as planners, and 11 representing other disciplines. Approximately half of the interviewees chose to respond via e-mail, while we conducted phone interviews with the other half. Attachment E presents the full list of respondents, including their current affiliations and form of response (e-mail or phone).

SUMMARY OF INTERVIEW RESULTS

Results of the indicator development process are presented in Exhibit 4-1 below. Exhibit 4-1 presents common themes, respondent suggestions, potential data sources, and recommendations for each indicator. Column headings are as follows:

- Preliminary indicator: Text of each preliminary indicator as originally written and sent to the respondents, or in the case of newly developed indicators (marked with an asterisk), text as suggested by the informants.

- Number of times favoured (out of 30 respondents): The number of respondents who indicated that the measure should be considered a priority.

- Respondent suggestions/common comments: Suggestions or comments made by multiple respondents.

- Census data: Whether the Canadian census tracks the type of information required by the indicator.

- FCM data: Whether the Federation of Canadian Municipalities (FCM) Quality of Life Reporting System captures the data required for the indicator.[77]

- Other potential data sources: Sources that may be used to collect data on the indicator. In general, however, the majority of respondents did not provide suggestions for data sources.

- Recommendation: General suggestions to keep, alter, or drop the indicator.

- Resulting Indicator: The resulting text of the indicator after incorporating suggestions from the interview respondents.

---

[77] The FCM Quality of Life Reporting System was developed to provide a framework for monitoring quality of life in 16 large urban cores. The system regularly reports a large number of "quality of life" indicators, ranging from community affordability and housing quality to community participation. The data used to derive the FCM indicators comes from many different sources. As a result, the extent to which it can be parsed to solely identify seniors is unclear.

IEc

PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
WALKABILITY							
1. Proportion of housing within walking distance (usually defined as ½ km or ¼ mile) to public transportation (could be further categorized by new versus existing housing stock).	16	May need to adjust distance downward for seniors.	No	No	Local planning data	Reduce distance to 500 metres.	Proportion of housing within walking distance (500 metres) to public transportation (could be further categorized by new versus existing housing stock by local government).
2. Average distance between pedestrian resting places (e.g., benches) along sidewalks.	7	N/a	No	No	Local planning data	Keep indicator as is.	Average distance between pedestrian resting places (e.g., benches) along sidewalks.
3. Proportion of streets (by linear km/mile) in the community that contain sidewalks.	13	Need to better define sidewalks: both sides of the street? Continuous? May need to add seasonal component for sidewalk snow/ice clearance (see # 7 below).	No	No	Local planning data	Add qualifiers regarding the proportion of streets with sidewalks on both sides of street.	Proportion of streets (by linear km/mile) in the community that contain sidewalks. Specifically, the proportion of streets that contain: a) sidewalk on both sides, b) sidewalk on one side, or c) no sidewalks.

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
4	Proportion of sidewalks (by linear km/mile) that could be defined as well-maintained (i.e., no badly cracked or broken pavement).	12	Not adequate for rural areas. May need to add seasonal component for sidewalk snow/ice clearance (see #7 below).	No	No	Local planning data	Reword "well maintained" to "in good repair".	Proportion of sidewalks (by linear km) that could be defined as in good repair (i.e., no badly cracked or broken pavement).
5	Average number of walks per week taken by residents age 65+ (categorize by length/time of walk).	8	May be difficult to get data. May need to be adjusted for seasons and destination.	No	No	Special purpose surveys	Categorize by season and destination.	Average number of walks per day/week/month taken by residents age 65+ (local government should categorize by destination, season/length/time of walk).
6	Annual number of pedestrian injuries and fatalities from automobile accidents (could be further categorized by victim age).	6	Could be moved to safety category. Injuries and fatalities could be categorized separately	No	Yes	Canadian Motor Vehicle Traffic Collision Statistics (Transport Canada)	Categorize injuries and fatalities separately by victim age, season, and reason for accident.	Annual number of pedestrian: 1) injuries and 2) fatalities from accidents with automobiles, categorized by: a) victim age, b) season, and c) reason for accident.
7*	Proportion of sidewalks cleared during/after a snow fall/freezing rain.	6*	Clearing snow/ice is a very important issue for seniors.	No	No	Municipal public works departments	Multiple respondents mentioned the need for an indicator that deals exclusively with clearing sidewalks from snow and ice. Add this indicator.	Proportion of sidewalks cleared during/after a snow fall/freezing rain.

IEc

TRANSPORTATION OPTIONS

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
1	Percent of residents age 65+ who use public transportation every day, once a week, once a month, or never.	10	Needs to focus on all types of transportation (not just public) because public transportation is not always available in rural areas and suburban areas.	No	Yes	Special purpose surveys / 2007 General Social Survey (Statistics Canada)	Change indicator to reflect multiple transportation options such as public, personal driving, taxis, family members, etc. May wish to categorize by each mode of transportation.	Proportion of residents age 65+ who travel every day, once a week, once a month, or never, categorized by: a) mode of transportation, b) destination, and c) season.
2	Average number of trips taken on public transportation by residents age 65+.	7	General support from respondents for this indicator	No	Yes	Focus group with seniors, special purpose surveys / General Social Survey (Statistics Canada)	Clarify unit of measurement.	Average number of trips taken on public transportation every day, once a week, once a month by residents age 65+.
3	Average number of times per week that residents 65+ report staying at home because of lack of transportation.	8	Speaks to the issue of remaining isolated in the house.	No	No	Focus group with seniors, special purpose surveys / General Social Survey (Statistics Canada)	Keep indicator as is.	Average number of times per week that residents 65+ report staying at home because of lack of transportation.

IEc

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
4	Of residents age 65+ who use "dial-a-ride" or door-through-door transportation, percent who are satisfied with the service.	2	N/a	No	No	Service providers	Respondents found that this indicator provides little value in gauging a community's embracement of smart growth and livable/sustainable community tenets because it is focused on automotive transport. Drop indicator.	N/A
SAFETY								
1	Proportion of residents age 65+ who report feeling safe/unsafe in their neighbourhood.	15	Perception of safety is more important than reality. May need to ask why people feel safe/unsafe.	No	No	Focus group with seniors, special purpose surveys	Categorize by time of day, location, and reason for feeling unsafe.	Proportion of residents age 65+ who report feeling safe/unsafe in their neighbourhood, categorized by: a) time of day, b) location, and c) reason(s) for feeling unsafe.
2	Proportion of streets and pedestrian routes (by linear km/mile) that lack adequate lighting for walking at night.	9	Intensity/ quality of lighting is important. Should add storefronts, bus stops, and public places. Should consider crosswalks as well.	No	No	Local planning data	Add storefronts, bus stops, pedestrian routes, and public places to this indicator.	Proportion of streets, pedestrian routes (by linear km), bus stops, public places, and retail areas that lack adequate lighting for walking at night.

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
3	Number of police patrols in the community per week.	5	Perceptions of police presence more important than patrols. May not be helpful in rural areas or those with community policing.	No	No	Local police data	Several respondents indicated that this indicator does not provide a meaningful measure of safety. Drop indicator.	N/A
4	Annual number of slip and fall injuries on sidewalks and in public spaces.	11	Falls (and fear of falling) are important factors that keep seniors home. May wish to add seasonal component to the indicator.	No	No	Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) (Public Health Agency of Canada)	Categorize by season, type, and place of fall.	Annual number of slip and fall injuries on sidewalks and in public spaces, categorized by: a) season, b) type of injury, and c) place of fall.
5	Number of reported street crimes against residents ages 65+ (categorize by type of crime, e.g., assault versus robbery).	8	Most inclusive of the crime indicators. Include home invasions or other crimes.	No	Yes	Crime statistics (Statistics Canada) / Canadian Centre for Justice Statistics / 2008 General Social Survey	Include additional types of crimes against seniors, such as home invasions. Categorize by type, location, and time.	Number of reported street crimes against residents ages 65+, categorized by: a) type of crime, b) location of crime, and c) time of day.

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
6*	Availability of wayfinding systems/safety features at crosswalks (e.g., longer crossing times, clear signage, visible sight lines, crossing noise for the visually impaired, safe design, etc).	5*	Seniors need extra time at crosswalks. Safety features at crosswalks are important.	No	No	Local planning data	Multiple respondents found that the addition of these features reduces the fear of falls. Add indicator to list.	Availability of wayfinding systems/safety features at crosswalks (e.g., longer crossing times, clear signage, visible sight lines, crossing noise for the visually impaired, safe design, etc).
HOUSING CHOICE								
1	Proportion and number of residences in the community categorized by housing type: multi-family home, single-family home, duplex, townhouse, rowhouse, mobile home, flex housing, garden flats, accessory dwelling units, and other (could be further categorized by new versus existing housing stock).	16	Variety of housing options is extremely important. Could be combined with Housing Indicator #3.	Not yet avail-able for some housing choices	No	Local planning data / CMHC	Keep indicator as is.	Proportion and number of residences in the community categorized by housing type: multi-family home, single-family home, duplex, townhouse, rowhouse, mobile home, flex housing, garden flats, accessory dwelling units, and other (could be further categorized by new versus existing housing stock).
2	Occupancy rates at existing lifestyle retirement, senior residences, and supportive housing in the community.	9	Important indicator of current state of housing in the community. May wish to look at supply of housing stock instead of occupancy.	Yes (data may not be robust enough for this use though)	Yes	Local planning data / CMHC	Keep indicator as is.	Occupancy rates at existing lifestyle retirement, senior residences, and supportive housing in the community.

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
3	Types of tenure available in the community (freehold homeownership, rental condominium, cooperative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure).	9	Variety of housing options is extremely important. Could be combined with Housing Indicator #1.	Yes (not all types are available through the Census)	No	Local planning data / 2008 General Social Survey (Statistics Canada)	Keep indicator as is.	Types of tenure available in the community (freehold homeownership, rental condominium, cooperative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure).
4	Proportion of residents 65+ who spend greater than 30 percent of their income on housing (existing CMHC affordability indicator).	13	Affordability is a major concern for seniors. The 30 percent threshold may be set too high.	Yes	Yes	CMHC	Change to "equal to or greater than 30 percent" to reflect CMHC's affordability criteria.	Proportion of residents 65+ who spend equal to or greater than 30 percent of their income on housing.
5	Proportion of residents age 65+ living in housing with unmet home modification needs (e.g., narrow hallways, stairs, lack of bathroom grab bars).	6	Add lighting to example modifications.	No	No	CMHC	Include lighting.	Proportion of residents age 65+ living in housing with unmet home modification needs (e.g., narrow hallways, stairs, lack of bathroom grab bars, adequate lighting).
6	Proportion of households living in "acceptable" housing (meeting adequacy, suitability, and affordability standards) in the community (existing CMHC core housing acceptability indicator).	8	May be the most important indicator. May wish to categorize by age cohorts.	No	No	CMHC	Incorporate age cohorts into indicator.	Proportion of households living in "acceptable" housing (meeting adequacy, suitability, and affordability standards) in the community, categorized by age cohort.

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
ACCESS TO SERVICES								
1	Proportion of housing within walking distance (usually defined as ½ km or ¼ mile) to the following basic services: pharmacy, grocery store, and bank.	18	Reduce distance to be more manageable for seniors. Add places such as restaurants, bus stops, hairdresser, post office, parks, community and senior centres.	No	No	General Social Survey (Statistics Canada) / Local planning data	Reduce the walking distance to 500 metres and add additional places of interest.	Proportion of housing within walking distance (500 metres) to the following basic services: pharmacy, grocery store, and bank.
2	Proportion of housing within walking distance (usually defined as ½ km or ¼ mile) OR within a 20 minute walking plus transportation trip to the following services: pharmacy, grocery store, bank, hospital, senior center, retail shopping.	12	May be duplicative with Access to Service Indicator #1. Alter to include driving trips. Reduce distance to be more manageable for seniors.	No	No	General Social Survey (Statistics Canada) / Local planning data	Reduce the walking distance to 500 metres and add driving.	Proportion of housing within walking distance (500 metres) OR within a 10 minute car/public transportation trip to the following services: pharmacy, grocery store, bank, hospital, senior center, retail shopping.

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
3	Proportion of residents 65+ that require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping.	4	Speaks to level of support in the community. Add clinics, libraries, and community halls.	No	No	Local planning data	Add additional places.	Proportion of residents 65+ that require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping, libraries and community halls.
4	Proportion of residents 65+ who have access to home delivery of groceries and other retail goods.	4	Provides a measure of availability of services to those with restricted mobility	No	No	Local planning data / 2008 General Social Survey (Statistics Canada)	Keep indicator as is.	Proportion of residents 65+ who have access to home delivery of groceries and other retail goods.
5	Proportion of residents 65+ who are able to afford home delivery of groceries and other retail goods.	0	No support from respondents.	No	No	Focus group with seniors, special purpose surveys	Drop indicator.	N/A
COMMUNITY ENGAGEMENT								
1	Proportion of residents 65+ who socialized with friends or neighbors in the past week.	9	Could be combined with Community Engagement Indicator #2. Change to "programmed recreational activity" to be more inclusive.	No	No	Focus group with seniors, special purpose surveys / 2008 General Social Survey (Statistics Canada)	Combine with Community Engagement Indicators #2 and #3.	Proportion of residents 65+ who engage in social activities at least once per week. Activities may include: meeting with friends/neighbors, engaging in civic, religious, or cultural activities, and participating in volunteer or part time work.

	PRELIMINARY INDICATOR	NUMBER OF TIMES FAVOURED (OUT OF 30 RESPONDENTS)	RESPONDENT SUGGESTIONS/ COMMON COMMENTS	CENSUS DATA	FCM DATA	OTHER POTENTIAL DATA SOURCES	RECOMMENDATIONS	FINAL INDICATOR
2	Proportion of residents age 65+ who engaged in at least one civic, religious, or cultural activity in the past week.	8	See #1	No	No	Focus group with seniors, special purpose surveys / 2008 General Social Survey (Statistics Canada)	Combine with Community Engagement Indicators #1 and #3.	See # 1 above
3	Proportion of residents age 65+ who participate in volunteer work.	4	Include "part time work."	No	No	Focus group with seniors, special purpose surveys / 2008 General Social Survey (Statistics Canada)	Combine with Community Engagement Indicators #1 and #2 and include part time work.	See # 1 above
4	Proportion of residents 65+ that are able to access a dedicated senior centre.	6	Include community centres, libraries, and places of interest.	No	No	Focus group with seniors, special purpose surveys	Include additional community places.	Proportion of residents 65+ that are able to access a dedicated senior centre or other places of interest such libraries and community centres.
5*	Local government has land use policy and planning programs that specifically engage seniors.	5*	Important that seniors have say in own future	No	No	Local government data	Add indicator to list.	Local government has land use policy and planning programs that specifically engage seniors.

Walkability

Survey respondents found the walkability category to be of high priority and reacted positively to all of the indicators, particularly Walkability Indicators #1 (proximity to transit), #3 (presence of sidewalks) and #4 (well-maintained sidewalks). With the exception of Walkability Indicator #6 (injuries), most respondents were not able to identify data sources to calculate these measures; however, several interviewees suggested that local planning offices might possess sufficient data to address many or most of these indicators. A fair number (20 percent) of respondents suggested adding an indicator that deals with snow clearing (or lack thereof). During winter, the lack of clear/safe sidewalks can be a major barrier for seniors wishing to walk outside. We suggested adding this indicator (Walkability Indicator #7) to the list.

Transportation Options

On the whole, respondents indicated the transportation options category, while important, was not of the highest priority when compared to other categories on the list. The interviewees indicated that Transportation Indicators #1 (use of public transportation by seniors), #2 (also use of public transportation by seniors), and #3 (unmet transportation needs) would be the most effective indicators. However, several respondents suggested that the focus should include all transportation options (including driving, taxi, and family members), not just public transportation, because in rural areas public transportation is simply not available. In fact, several interviewees indicated that in many places (including urban locales, but very often in suburban and rural communities), the majority of seniors continue to drive well into their 80s. This finding highlights a key tension between promoting smart growth and livable communities, and the transportation needs of seniors in rural areas in particular, which are most realistically met through automotive transportation. Some respondents acknowledged that a focus on automotive transportation does not fit within our study. The implication is that CMHC should focus its outreach efforts related to this project to urban and suburban areas where a focus on public transportation and/or walkability is realistic.

In general, several respondents indicated that data for the entire category would likely be difficult to find, and it may be necessary to conduct focus groups or surveys with seniors to obtain the appropriate information. However, the General Social Survey (GSS) conducted by Statistics Canada is a possible data source for some transportation statistics.[78]

Safety

In general, the respondents indicated that safety is a high priority and that the indicators adequately captured the two key aspects of safety: crime and falls. Half of the respondents

---

[78] The General Social Survey, established in 1985, gathers data on social trends in order to monitor changes in living conditions and societal well-being in Canada. The policy issues explored each year through sampled telephone surveys changes yearly. Because the subjects of the survey change often, it may not be an adequate data source for a community that needs to update its elderly community indicators on a regular basis. Statistics Canada, General Social Survey: An Overview, 2007, http://www.statcan.ca/bsolc/english/bsolc?catno=89F0115X&CHROPG=1, accessed May 2007.

suggested that Safety Indicator #1 (perception of safety) was the most important in terms of getting seniors to leave the house. The perception of crime or fear of crime keeps seniors from leaving the home. However, several interviewees suggested that this perception may be difficult to measure; surveys or focus groups with seniors would be required. Many respondents felt that Safety Indicator #3 (police patrols) did not provide adequate insight into a community and should be dropped from the list. We concurred with this suggestion.

In addition to crime, many respondents felt that falling and the fear of falling as referenced in Safety Indicator #4 is an important indicator of the quality of the built environment.[79] In places with quality sidewalks and crosswalks, with adequate signage and other safety features, the fear of falling is far less. Based on the response of the interviewees, we recommended adding Safety Indicator #6, which captures this concept.

Housing Choice

Respondents generally reacted positively to all of the housing choice indicators. More than half of the interviewees found Housing Choice Indicator #1 (housing variety) to be the highest priority, since the greater the variety of housing available in a community, the more options available for seniors as they age. Respondents also noted that affordability (Housing Choice Indicator #4) is an extremely important priority for senior housing. In general, data for the housing categories is available from the Census and is reported to FCM. In addition, several interviewees suggested that CMHC might have some internal data that may be helpful to communities addressing this indicator.

Access to Services

A majority of the respondents found that Services Indicator #1 (proximity to services) was a high priority indicator; however, many suggested reducing the distance to services cited in the indicator to a level that is more manageable for most seniors. Suggestions ranged from 200 to 1000 metres. We recommend reducing the distance to 500 metres for Services Indicators #1 and #2 (proximity to less critical services than #1). In addition, some respondents found that Services Indicators #1 and #2 may be duplicative and could be combined. It is likely that local planning data will be necessary to calculate these two indicators. Conversely, Services Indicators #3 (need for assistance to access services) and #4 (access to home delivery services) did not receive substantial support from the interviewees; however, based on the responses of the focus groups, we suggest CMHC keep these indicators on the list.

---

[79] The Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), which is administered by the Public Health Agency of Canada (PHAC), keeps extensive records on falls and seniors. Public Health Agency of Canada (PHAC), Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), http://www.phac-aspc.gc.ca/injury-bles/chirpp/injrep-rapbles/index.html, accessed on May 2007.

Community Engagement

Many respondents did not find the community engagement indicators to be of high priority. Several thought that they were duplicative, and that we should combine Community Engagement Indicators #1 (frequency of socialization), #2 (frequency of civic engagement), and #3 (frequency of volunteerism) to encompass all aspects of civic and social life. Most interviewees felt that data needed to measure these indicators would not be available and focus groups or surveys with seniors would be necessary, although the 2008 GSS survey will address volunteerism to a certain degree. In addition, several key informants suggested that we add an indicator that captures the role seniors play in community planning. We recommended adding this indicator (Community Engagement #5) to the list.

INDICATOR PILOT TESTING

After refining the indicators in response to the experts' comments, IEc conducted a pilot test of the indicators with two communities. In an attempt to reflect the diversity in Canadian development patterns, we selected two communities for the pilot test that differ in demography and character:[80]

- **Mississauga, Ontario**: Located directly west of Toronto, Mississauga is Canada's sixth largest city, with a population of approximately 700,000 people. Mississauga is a growing city known for having a forward-thinking planning department.[81] The Mississauga Planning and Building Department maintains a wide-range of planning data, including an extensive geographic information system (GIS).

- **Squamish, British Columbia:** Located approximately halfway between Vancouver and Whistler along the Sea-to-Sky highway, the town of Squamish (population ~ 16,000) serves as the economic and cultural centre of the Squamish-Lillooet Regional District. The District is currently implementing new smart growth regulations and zoning to accommodate rapid population growth in the region. Like planners in many small towns, the District of Squamish Planning Department has relatively few resources to devote to data collection.[82]

PILOT TEST INSTRUCTIONS TO COMMUNITIES

IEc presented the pilot test communities with a table containing the smart growth indicators, organized by the six key challenges associated with aging in place and the built environment (neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in civic activities). For each key area, we asked the planners to select two to four indicators that they felt were most relevant to their community

---

[80] IEc identified these communities during Phase 4 of the research effort, development of community case studies. Planners from both communities agreed to participate in the pilot test.

[81] IEc would like to acknowledge Ms. Angela Dietrich and Ms. Shahada Khan of the Mississauga Planning and Building Department for their willingness to participate in the indicator pilot test.

[82] IEc would like to acknowledge Ms. Heather Evans of the District of Squamish Planning Department for her willingness to participate in the indicator pilot test.

and would be most helpful in their planning efforts. For each of the selected indicators, we asked the planners to explain why they selected the indicator, identify the sources of information they would draw on to respond to the indicator, and characterize their community's performance with respect to the indicator. IEc directed the planners to use only readily available data to complete the pilot test, and gave participants only a few weeks to provide responses. We imposed these constraints in order to determine which indicator data were easy to collect, and which were difficult.[83] We also asked the planners to provide comments on the usefulness of the indicators and the availability of the data required, as well as suggestions to clarify language. Finally, for those indicators not selected, we asked the planners to provide some information on why they were not chosen. Attachment F contains the full instructions given to the planners, along with the indicator response table used in the pilot test.[84]

PILOT TEST FINDINGS

Pilot communities completed testing in early November 2007. The pilot test responses provide CMHC with a preliminary assessment of the usefulness of the indicators developed, as well as a description of the types of data sources available to respond to each indicator. This section summarizes the responses provided by the two communities, including specific recommendations put forth by the pilot test respondents.

Overview of Data Availability Issues

Data availability is a key issue to address in determining the level of effort needed to employ each indicator. Data are needed to develop baselines, set goals, and track progress towards established goals. Exhibit 4-2 summarizes, by key area, the number of indicators for which each community located readily available data.

---

[83] We expected that participants might contact colleagues or other government departments to locate useful data sources; however, we did not intend for the planners to conduct primary research.   To facilitate the identification of data sources, we also provided the planners with suggested data sources for each indicator in the pilot test table.

[84] The goal of the pilot test was to improve the indicators by identifying appropriate data sources, refining indicator language, and gaining feedback from the pilot test respondents. While the pilot test protocol asked the respondents to submit data on their communities, analysis of this information was not the focus of the exercise.

IEc

EXHIBIT 4-2 NUMBER OF INDICATORS WITH DATA READILY AVAILABLE

INDICATOR CATEGORY (TOTAL NUMBER OF INDICATORS IN PILOT TEST)	NUMBER OF INDICATORS FOR WHICH DATA ARE READILY AVAILABLE	
	MISSISSAUGA, ON	SQUAMISH, BC
Neighbourhood Walkability (7)	4	1
Transportation Options (3)	2	1
Safety (5)	1	2
Housing Choice (6)	4	3
Access to Services (4)	0	2
Community Engagement (3)	3	2
Totals (28)	14	11

Of the total number of indicators presented to the pilot test communities (28 indicators), Mississauga currently has access to the data needed to respond to 50 percent (14 indicators), while Squamish has access to the data needed to respond to approximately 39 percent (11 indicators). The biggest difference between the two communities is the ability to respond to the walkability indicators. Mississauga was able to locate data for four of the seven walkability indicators, while Squamish could only provide a response for one indicator in this category. However, Squamish noted that over time, as its GIS capabilities improve, it would likely be in a better position to respond to these indicators. It is also important to note that Mississauga could not respond to the access to services indicators due to a lack of readily available data. However, it does appear that Mississauga may be able to respond to several of the access to services indicators if given more time to query its geographic databases.

Pilot Test Results by Indicator Category

The pilot test responses provide insight into the data available and the applicability of each indicator to individual communities. Exhibits 4-3 through 4-8 summarize the data available and notable suggestions from the pilot test respondents. We organize each exhibit by the key areas associated with aging in place and the built environment (neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in civic activities). Data availability is classified as 1) "generally available" (both communities located readily available data); 2) "generally not available" (neither community could locate readily available data); or 3) "mixed response" (only one community could locate readily available data).

Neighbourhood Walkability

Exhibit 4-3 summarizes, for each walkability indicator, data availability and notable comments and suggestions provided by the pilot test respondents.

IEc

	INDICATOR	DATA AVAILABILITY	NOTABLE COMMENTS/SUGGESTIONS
1	Proportion of housing within walking distance (500 metres) to public transportation (could be further categorized by new versus existing housing stock by local government).	Mixed response	"Walking distance" may vary depending on community's priorities (e.g., Squamish uses 400 metres).
2	Average distance between pedestrian resting places (e.g., benches) along sidewalks.	Generally not available	Data collection to respond to this indicator would likely require a manual survey, which would be time intensive.
3	Proportion of streets (by linear km/mile) in the community that contain sidewalks. Specifically, the proportion of streets that contain: a) sidewalk on both sides, b) sidewalk on one side, or c) no sidewalks.	Mixed response	Data collection to respond to this indicator would likely require comprehensive GIS information.
4	Proportion of sidewalks (by linear km) that could be defined as in good repair (i.e., no badly cracked or broken pavement).	Generally not available	As GIS systems improve, these data may become available.
5	Average number of walks per day/week/month taken by residents age 65+ (local government should categorize by destination, season/length/time of walk).	Mixed response	Canadian Community Health Survey of 2005 provides related information.
6	Annual number of pedestrian: 1) injuries and 2) fatalities from accidents with automobiles, categorized by: a) victim age, b) season, and c) reason for accident.	Mixed response	Police data may provide required information.
7	Proportion of sidewalks cleared during/after a snow fall/freezing rain.	Generally available	NA

As noted above, Mississauga was able to collect data for four of the walkability indicators, compared to only one in Squamish. The geographic component of many of the walkability indicators (e.g., Walkability #2) requires the collection of comprehensive GIS data to adequately respond to the indicator. Thus, communities with thorough GIS information are more likely to use this set of indicators. Squamish specifically noted that data to complete these indicators will likely become available as the District's GIS system improves over time. For Walkability #1, Mississauga noted that a detailed query of the GIS system could be performed to respond to the indicator.

The respondents also suggested several additional data sources to respond to the walkability indicators. Mississauga recommended the Canadian Community Health Survey of 2005 to provide information on the number of walks taken by older residents (Walkability #5), and the use of local police statistics to obtain information on pedestrian accidents (Walkability #6).

Transportation Options

Exhibit 4-4 summarizes, for each transportation options indicator, data availability and notable comments and suggestions provided by the pilot test respondents.

EXHIBIT 4-4 KEY PILOT TEST RESULTS FOR TRANSPORATION OPTIONS INDICATORS

	INDICATOR	DATA AVAILABILITY	NOTABLE COMMENTS/SUGGESTIONS
1	Proportion of residents age 65+ who travel every day, once a week, once a month, or never, categorized by: a) mode of transportation, b) destination, and c) season.	Mixed response	Local or regional transit authorities may have data to complete this indicator.
2	Average number of trips taken on public transportation every day, once a week, once a month by residents age 65+.	Generally available	Local or regional transit authorities may have data to complete this indicator.
3	Average number of times per week that residents 65+ report staying at home because of lack of transportation.	Generally not available	Planners expressed interest in this indicator; however, it would likely require a special survey of senior residents.

The transportation indicators appear to be easily utilized measurement tools for the pilot test communities, although data availability varied between the two respondents. In general, Mississauga located information for Transportation Options #1 and Transportation Options #2 using data provided by the city transit department. The department accessed transportation statistics associated with senior transit pass programs to respond to the indicators. This suggests that transit authorities may be able to provide communities with adequate data to complete these two indicators. Unlike Mississauga, Squamish did not have data readily available for Transportation Options #1, and had to rely on a special health survey (conducted in 2003) to complete Transportation Options #2. Neither community located data to complete Transportation Options #3, although Squamish expressed interest in developing a survey to investigate the number of seniors who remain at home due to a lack of transportation options.

Safety

Exhibit 4-5 summarizes, for each safety indicator, data availability and notable comments and suggestions provided by the pilot test respondents.

IEc

EXHIBIT 4-5 KEY PILOT TEST RESULTS FOR SAFETY INDICATORS

	INDICATOR	DATA AVAILABILITY	NOTABLE COMMENTS/SUGGESTIONS
1	Proportion of residents age 65+ who report feeling safe/unsafe in their neighbourhood, categorized by: a) time of day, b) location, and c) reason(s) for feeling unsafe.	Mixed response	Surveys of seniors appear to be the best method to collect data to complete this indicator.
2	Proportion of streets, pedestrian routes (by linear km), bus stops, public places, and retail areas that lack adequate lighting for walking at night.	Generally not available	Data to complete this indicator may need to be compiled from multiple sources (e.g., transit authorities for bus stop data, local planning data for roads, and special retail survey for shopping areas).
3	Annual number of slip and fall injuries on sidewalks and in public spaces, categorized by: a) season, b) type of injury, and c) place of fall.	Mixed Response	Canadian Community Health Survey of 2005 provides related data; however, sidewalk falls are not always reported.
4	Number of reported street crimes against residents ages 65+, categorized by: a) type of crime, b) location of crime, and c) time of day.	Mixed response	Crime statistics from Statistics Canada may not provide detailed information for small communities. Local police data may provide additional information.
5	Availability of wayfinding systems/safety features at crosswalks (e.g., longer crossing times, clear signage, visible sight lines, crossing noise for the visually impaired, safe design, etc).	Generally not available	Data to complete this indicator could be collected through a municipal audit of sight lines.

In general, the pilot test respondents had difficulty locating adequate data to complete the safety indicators. Neither community was able to locate readily available data for Safety #2 and Safety #5. Mississauga obtained slip and fall data to complete Safety #3, although the source data, the Canadian Community Health Survey, does not report all falls on sidewalks. Squamish located data for Safety #1 and Safety #4, but the street crime data available to complete Safety #4 was only available at the Census Metropolitan Area (CMA) level, which is a larger geographic area than the District of Squamish. The pilot testers suggested that additional crime statistics could be obtained from local or regional police data.

Housing Choice

Exhibit 5-6 summarizes, for each housing choice indicator, data availability and notable suggestions and comments provided by the pilot test respondents.

EXHIBIT 4-6 KEY PILOT TEST RESULTS FOR HOUSING CHOICE INDICATORS

	INDICATOR	DATA AVAILABILITY	NOTABLE COMMENTS/SUGGESTIONS
1	Proportion and number of residences in the community categorized by housing type: multi-family home, single-family home, duplex, townhouse, rowhouse, mobile home, flex housing, garden flats, accessory dwelling units, and other (could be further categorized by new versus existing housing stock).	Generally available	Census provides this information.
2	Occupancy rates at existing lifestyle retirement, senior residences, and supportive housing in the community.	Mixed response	Collecting data to complete this indicator would likely require a special purpose survey.
3	Types of tenure available in the community (freehold homeownership, rental, condominium, cooperative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure).	Generally available	Census data only delineates between freehold and rental tenures. A special purpose survey is likely necessary to complete this indicator.
4	Proportion of residents 65+ who spend equal to or greater than 30 percent of their income on housing.	Generally available	The percent of income spent on housing could be adjusted to meet a community's data collection methods (e.g., Squamish uses 50 percent of income in its survey).
5	Proportion of residents age 65+ living in housing with unmet home modification needs (e.g., narrow hallways, stairs, lack of bathroom grab bars, adequate lighting).	Mixed response	Housing condition is available in the Census data, but a planning survey would be needed to assess home modifications.
6	Proportion of households living in "acceptable" housing (meeting adequacy, suitability, and affordability standards) in the community, categorized by age cohort.	Generally not available	Collecting data to complete this indicator would likely require a special purpose survey.

Based on data availability, the housing choice indicators appear to be relatively easy for the pilot test communities to respond to. Using Census data, both respondents located data to support Housing Choice #1. In addition, both pilot test communities responded to Housing Choice #4; however, they employed different data sources. Mississauga applied Census information, while Squamish used its own affordable housing study. Squamish applied this same affordable housing study to support Housing Choice #2. The pilot test respondents found that for Housing Choice #3, Census information does not provide additional detail on housing tenure beyond freeholders and renters. This suggests that a special purpose survey is likely necessary to collect complete information on this indicator. Finally, neither community located information to support Housing Choice #6, which also would likely require a special purpose survey.

Access to Services

Exhibit 4-7 summarizes, for each access to services indicator, data availability and notable comments and suggestions provided by the pilot test respondents.

EXHIBIT 4-7 KEY PILOT TEST RESULTS FOR ACCESS TO SERVICES INDICATORS

	INDICATOR	DATA AVAILABILITY	NOTABLE COMMENTS/SUGGESTIONS
1	Proportion of housing within walking distance (500 metres) to the following basic services: pharmacy, grocery store, and bank.	Mixed response	Data to complete this indicator could be obtained through GIS. Mississauga suggested expanding the definition of "basic services" to include additional places.
2	Proportion of housing within walking distance (500 metres) OR within a 10-minute car/public transportation trip to the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping.	Generally not available	Data to complete this indicator likely require comprehensive GIS information.
3	Proportion of residents 65+ that require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping, libraries and community halls.	Mixed response	Data to complete this indicator likely require a special purpose survey.
4	Proportion of residents 65+ who have access to home delivery of groceries and other retail goods.	Generally not available	Data to complete this indicator likely require a special purpose survey.

Pilot test respondents had difficulty locating readily available data for the access to services indicators. Mississauga did not locate information for any of the access to services indicators, but suggested that data might be obtained for Access to Services #1 by querying local geographic planning data. However, this effort may be time and resource intensive. Mississauga also suggested expanding the definition of "basic services" to include additional places (e.g., hospital, senior centre, and retail shopping). Squamish located data for Access to Services #1 and Access to Services #3 by relying on previous research, including smart growth planning efforts and a senior health study.

Community Engagement

Exhibit 4-8 summarizes, for each community engagement indicator, data availability and notable comments and suggestions provided by the pilot test respondents.

EXHIBIT 4-8 KEY PILOT TEST RESULTS FOR COMMUNITY ENGAGEMENT INDICATORS

	INDICATOR	DATA AVAILABILITY	NOTABLE COMMENTS/SUGGESTIONS
1	Proportion of residents 65+ who engage in social activities at least once per week. Activities may include: meeting with friends/neighbours, engaging in civic, religious, or cultural activities, and participating in volunteer or part time work.	Generally available	Collecting data to complete this indicator would likely require a special purpose survey.
2	Proportion of residents 65+ that are able to access a dedicated senior centre or other places of interest such as libraries and community centres.	Generally available	Clarify wording to read, "Proportion of residents 65+ who have access from their home to a dedicated senior centre or other places of interest such as libraries and community centres."
3	The extent to which local government has land use policy and planning programs that specifically engage seniors.	Generally not available	Research into municipal policies may provide information to complete this indicator.

The pilot respondents successfully located data for the majority of the community engagement indicators. Interestingly, for Community Engagement #1 and Community Engagement #2, both communities relied on previous research efforts to complete the indicators. As part of its Older Adult Project, Mississauga surveyed seniors on their participation in and access to community activities. Similarly, Squamish conducted a survey that asked seniors to identify programs that they regularly attend. For Community Engagement #3, neither community has specific survey information; however, it appears that research on municipal policies towards seniors and participation in land use matters may yield information to inform Community Engagement #3.

In addition, Mississauga found the wording of Community Engagement #2 to be unclear. To clarify the indicator, we recommended the wording change presented in the comments column in Exhibit 4-8.

FINAL INDICATORS TABLE

Exhibit 4-9 presents the final set of indicators of smart growth planning for seniors. This table reflects all phases of research conducted for this project, including the literature review, indicator development, interviews with planners, and the pilot test findings.[85] In total, the table contains 28 indicators organized by the six key areas of interest (neighbourhood walkability, transportation options, access to services, housing choice,

---

[85] Even though the pilot communities expressed difficulty locating data sources for many of the indicators, we do not recommend removing any of the indicators from the final list. A pilot test of two communities is too small to give cause for large changes. In addition, we would not expect a community to be able to provide information for all indicators. In fact, some indicators may only be useful in a small number of cases.

safety, and community engagement in civic activities), and suggests potential data sources for each indicator. The table then provides spaces to indicate the following:

- **Data Sources Used:** This column allows users to keep a record of the data source(s) employed to respond to each indicator.

- **Goal Related to the Indicator:** This column allows a locality to establish a goal for each indicator.

- **Indicator Response:** This column provides a space to respond to each indicator.

- **Progress Towards Goal:** This column allows a locality to calculate progress towards the goal for an indicator. For example, a hypothetical user selects a community goal for Walkability #1 of "40 percent of housing within walking distance (500 metres) to public transportation," and the current response to the indicator is "20 percent"; in this case, the locality has met 50 percent of its goal. Using the scoring system provided at the bottom of the final indicator table, one could grade the locality's progress. In this example, the locality would score "moderate progress" towards this goal.

- **Notes/Comments:** This final column allows users to insert notes or comments into the table for future reference.

The table provides local governments the opportunity to measure their progress against established goals and/or prior indicator measurements. It is important to note that the only scoring method that is appropriate for this exercise is self-assessment, as currently available data do not support comparisons of one locality's performance on an indicator against another.

IEc

EXHIBIT 4-9 FINAL INDICATORS TABLE AND CHECKLIST TOOL

	INDICATOR	SUGGESTED DATA SOURCES	DATA SOURCE USED	GOAL RELATED TO THE INDICATOR	INDICATOR RESPONSE	PROGRESS TOWARDS GOAL*	NOTES/COMMENTS
WALKABILITY							
1	Proportion of housing within walking distance (500 metres) to public transportation (could be further categorized by new versus existing housing stock by local government).	Local planning data					
2	Average distance between pedestrian resting places (e.g., benches) along sidewalks.	Local planning data					
3	Proportion of streets (by linear km) in the community that contain sidewalks. Specifically, the proportions of streets that contain: a) sidewalks on both sides, b) a sidewalk on one side, or c) no sidewalks.	Local planning data					
4	Proportion of sidewalks (by linear km) that could be defined as in good repair (i.e., no badly cracked or broken pavement).	Local planning data					
5	Average number of walks per day/week/month taken by residents age 65+ (local government should categorize by destination, season/length/time of walk).	Special purpose surveys / Canadian Community Health Survey (2005)					

	INDICATOR	SUGGESTED DATA SOURCES	DATA SOURCE USED	GOAL RELATED TO THE INDICATOR	INDICATOR RESPONSE	PROGRESS TOWARDS GOAL*	NOTES/COMMENTS
6	Annual number of pedestrian: 1) injuries and 2) fatalities from accidents with automobiles, categorized by: a) victim age, b) season, and c) reason for accident.	Canadian Motor Vehicle Traffic Collision Statistics (Transport Canada)					
7	Proportion of sidewalks cleared during/after a snow fall/freezing rain.	Municipal public works departments					
TRANSPORTATION OPTIONS							
1	Proportion of residents age 65+ who travel every day, once a week, once a month, or never, categorized by: a) mode of transportation, b) destination, and c) season.	Special purpose surveys / 2007 General Social Survey (Statistics Canada) / Local transit authority data					
2	Average number of trips taken on public transportation every day, once a week, once a month by residents age 65+.	Focus group with seniors / Special purpose surveys / General Social Survey (Statistics Canada) / Local transit authority data					
3	Average number of times per week that residents 65+ report staying at home because of lack of transportation.	Focus group with seniors / Special purpose surveys / General Social Survey (Statistics Canada)					

IEc

	INDICATOR	SUGGESTED DATA SOURCES	DATA SOURCE USED	GOAL RELATED TO THE INDICATOR	INDICATOR RESPONSE	PROGRESS TOWARDS GOAL*	NOTES/COMMENTS
SAFETY							
1	Proportion of residents age 65+ who report feeling safe/unsafe in their neighbourhood, categorized by: a) time of day, b) location, and c) reason(s) for feeling unsafe.	Focus group with seniors / Special purpose surveys					
2	Proportions of streets, pedestrian routes (by linear km), bus stops, public places, and retail areas that lack adequate lighting for walking at night.	Local planning data / Special purpose surveys					
3	Annual number of slip and fall injuries on sidewalks and in public spaces, categorized by: a) season, b) type of injury, and c) place of fall.	Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) (Public Health Agency of Canada) / Canadian Community Health Survey (2005)					
4	Number of reported street crimes against residents ages 65+, categorized by: a) type of crime, b) location of crime, and c) time of day.	Crime statistics (Statistics Canada) / Canadian Centre for Justice Statistics / 2008 General Social Survey / Local police data					

INDUSTRIAL ECONOMICS, INCORPORATED

	INDICATOR	SUGGESTED DATA SOURCES	DATA SOURCE USED	GOAL RELATED TO THE INDICATOR	INDICATOR RESPONSE	PROGRESS TOWARDS GOAL*	NOTES/COMMENTS
5	Availability of wayfinding systems/safety features at crosswalks (e.g., crossing times that allow seniors to cross the streets safely, clear signage, visible sight lines, crossing noise for the visually impaired, safe design).	Local planning data / Municipal audit of sight lines					
HOUSING CHOICE							
1	Proportions and numbers of residences in the community categorized by housing type: multi-family home, single-family home, duplex, townhouse, rowhouse, mobile home, FlexHousing™, garden suites/granny flats, accessory dwelling units, and other (could be further categorized by new versus existing housing stock).	Local planning data / CMHC / Census data					
2	Occupancy rates at existing lifestyle retirement, senior residences, and supportive housing in the community.	Local planning data / CMHC / Census data / Special purpose surveys					
3	Types of tenure available in the community (freehold homeownership, rental, condominium, cooperative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure).	Local planning data / 2008 General Social Survey (Statistics Canada) /Census data / Special purpose surveys					

	INDICATOR	SUGGESTED DATA SOURCES	DATA SOURCE USED	GOAL RELATED TO THE INDICATOR	INDICATOR RESPONSE	PROGRESS TOWARDS GOAL*	NOTES/COMMENTS
4	Proportion of residents 65+ who spend equal to or greater than 30 percent of their before tax household income on housing.	CMHC / Census data					
5	Proportion of residents age 65+ living in housing with unmet home modification needs (e.g., narrow hallways, unsafe stairs, lack of bathroom grab bars, inadequate lighting).	CMHC data / Special purpose surveys					
6	Proportion of households living in "acceptable" housing (meeting adequacy, suitability, and affordability standards) in the community, categorized by age cohort.	CMHC data / Special purpose surveys					
ACCESS TO SERVICES							
1	Proportion of housing within walking distance (500 metres) to the following basic services, including pharmacy, grocery store, bank, hospital, senior centre, and retail shopping.	General Social Survey (Statistics Canada) / Local planning data					
2	Proportion of housing within walking distance (500 metres) OR within a 10-minute car/public transportation trip to the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping.	General Social Survey (Statistics Canada) / Local planning data					

#	INDICATOR	SUGGESTED DATA SOURCES	DATA SOURCE USED	GOAL RELATED TO THE INDICATOR	INDICATOR RESPONSE	PROGRESS TOWARDS GOAL*	NOTES/COMMENTS
3	Proportion of residents 65+ that require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping, libraries and community halls.	Local planning data / Special purpose surveys					
4	Proportion of residents 65+ who have access to home delivery of groceries and other retail goods.	Local planning data / 2008 General Social Survey (Statistics Canada) data / Special purpose surveys					
COMMUNITY ENGAGEMENT							
1	Proportion of residents 65+ who engage in social activities at least once per week. Activities may include: meeting with friends/neighbours, engaging in civic, religious or cultural activities, and participating in volunteer or part time work.	Focus group with seniors, special purpose surveys / 2008 General Social Survey (Statistics Canada)					
2	Proportion of residents 65+ who have access from their home to a dedicated senior centre or other places of interest such as libraries and community centres.	Focus group with seniors, special purpose surveys					

IEc

INDICATOR	SUGGESTED DATA SOURCES	DATA SOURCE USED	GOAL RELATED TO THE INDICATOR	INDICATOR RESPONSE	PROGRESS TOWARDS GOAL*	NOTES/COMMENTS
3	The extent to which local government has land use policy and planning programs that specifically engage seniors.	Local government data/Research on municipal policies				

Notes:

* Progress Towards Goal Scoring System:

Over 75% of goal met = significant progress

50-75% of goal met = moderate progress

25-50% of goal met = initial progress

0-25% of goal met = progress needed

IEc

ATTACHMENT A | BIBLIOGRAPHY

Abbott, R., L. White, G. Ross, K Masaki, J. Curb, and H. Petrovitch, "Walking and Dementia in Physically Capable Elderly Men," J*ournal of the American Medical Association*, September 22/29, 2004.

AARP Public Policy Institute, *Livable Communities: An Evaluation Guide,* 2005.

AARP, *Global Report on Aging, Special Edition on Livable Communities,* Summer 2005.

"Aging in Place," Presentation from Workshops at Simon Fraser University, 1997, http://www.justshelter.com/seniors/options/retire/aging.htm#aging, accessed on October 1, 2006.

American Society on Aging, "Supportive Housing For an Aging Society," *Generations*, Winter 2006.

Ball, M.S., *Aging in Place: A Tool Kit for Local Governments,* Community Housing Resource Center, (undated).

Barnes, L., C. Mendes de Leon, R. Wilson, J. Bienias, and D. Evans, "Social resources and cognitive decline in a population of older African Americans and whites," *Neurology*, April 18, 2007.

Bailey, L., *Aging Americans: Stranded Without Options*, Surface Transportation Policy Project, April 2004.

Benfield, F. K., M. Raimi, and D. Chen, *Once There Were Greenfields: How Urban Sprawl Is Undermining America's Environment, Economy and Social Fabric*, Natural Resource Defense Council and Surface Transportation Policy Project, 1999.

Burton, E. and L. Mitchell, *Inclusive Urban Design: Streets for Life,* Architectural Press, 2006.

Canada Lands Company, Benny Farm Redevelopment: *A Project for the Community*, September 2003.

Canada Lands Company, *Redevelopment of the Benny Farm Site: a history, a community, a project*, DVD (undated).

Canadian Housing Information Center, "Implementing Sustainable Community Development: Charting a Federal Role for the 21st Century," *Research Highlight*, December 2000.

Cao, X., P. Mokhtarian, and S. Handy, *Neighborhood Design and Aging: An Empirical Analysis in Northern California*, Upper Great Plains Transportation Institute, 2007.

Center for Home Care and Policy Research, Visiting Nurse Service of New York, "The AdvantAge Initiative," http://www.vnsny.org/advantage/index.html, accessed on October 1, 2006.

IEc

Center for Canadian Studies at Mount Allison University, "About Canada: Aging and the Canadian Population, " 2006, http://www.mta.ca/faculty/arts/canadian_studies/english/about/aging/index.htm#table, accessed on October 1, 2006.

City of Markham, Planning and Urban Design Department, "Open House Presentation on Cornell Secondary Plan Review," May 2002.

City of Vancouver, Community Services, Planning Department, "City of Vancouver, Mount Pleasant Wellness Walkways," (undated).

CMHC, "Aging, Communities and Planning for the Future: A CMHC Literature Review," (Draft) April 2005, unpublished.

CMHC, "2001 Census Housing Series: Issue 3 Revised, The Adequacy, Suitability, and Affordability of Canadian Housing," *Research Highlight*, April 2004.

CMHC, *Canadian Housing Observer 2007*, 2007.

CMHC, "2001 Census Housing Series: Issue 10 Aging, residential mobility and Housing Choices," *Research Highlight,* February 2006.

CMHC, *Criteria and Method for Evaluating Subdivision Plans for Livability, and Sustainability*, prepared by R. Tomalty, D. Butler, D. Bruce, November 2006.

CMHC, "Determining the Implications of Population Aging for Housing and Residential Communities: Discussion Paper #2: Validating and Extending What was Learned from the Initial Literature Review (through Expert and Practitioner Views)," June 30, 2005, unpublished.

CMHC, "FlexHousing™ Adapts to Life's Changes," *Abilities*, Winter 2005, Issue 65, pp. 42–43.

CMHC, "Housing the Boom, Bust and Echo Generations," *Research Highlight,* March 2002.

CMHC, *Housing and Support Services Needs and Preferences of Rural Seniors from Three Regions in Canada*, prepared by G. Gutman and G. Hodge, Simon Fraser University, March 1990.

CMHC, "Intergenerational Homesharing and Secondary Suites in Québec City Suburbs," *Research Highlight*, November 2006.

CMHC, "Seniors' Housing for Seniors: A Feasibility Study," *Research Highlight*, November 2006.

CMHC, "Smart Growth in Canada: A Report Card," *Research Highlight,* December 2005.

CMHC, *Smart Growth in Canada: Implementation of a Planning Concept,* August 2005.

Cummings, P., City of Dunedin, Florida, 2007 National Aging I&R/A Symposium, Presentation, May 2007.

Dalrymple, E., *Aging in Place: Making Communities More Livable for Older Adults,* Partners for Liveable Communities and the National Association of Area Agencies on Aging, 2005.

Environment Canada, *Guidelines for the Development of Sustainability Indicators*, Sustainable Community Indicators Program (SCIP), August 2001.

Environics, *Public Opinion on the Environment, Education, Urban Sprawl, and Water Issues,* prepared for the Sustainability Network, June 2002.

Federation of Canadian Municipalities, *Quality of Life in Canadian Communities: Growth, the Economy, and the Urban Environment, Theme Report #3*, 2005.

Federation of Canadian Municipalities, *The FCM Quality of Life Reporting System: Quality of Life in Canadian Communities,* May 1999.

Fobker, S. and R. Grotz, "Everyday Mobility of Elderly People in Different Urban Settings: The Example of the City of Bonn, Germany," *Urban Studies* 43(1): 99-118, January 2006.

Frank, L. and C. Hawkins, *Fused Grid Assessment: Travel and environmental impacts of contrasting pedestrian and vehicular connectivity,* submitted to CMHC, November 2007.

Frank, L., S. Kavage, and T. Litman. *Promoting Public Health Through Smart Growth: Building Healthier Communities Through Transportation And Land Use Policies And Practices*, prepared for SmartGrowthBC, 2006.

Frank, L., T. Schmid, J. Sallis, J. Chapman, and B. Saelens. "Linking Objectively Measured Physical Activity with Objectively Measured Urban Form: Findings from SMARTRAQ," *American Journal of Preventative Medicin*e, 28(2S2): 117-125, 2005.

Foster, N., P. Damiano, E. Momany, and H. McLeran, "Travel Patterns of Rural Elders," *Transportation Quarterly* 49(3): 51-65, Summer 1995.

Gallagher, E., and V. Scott, *Taking Steps: Modifying Pedestrian Environments to Reduce the Risk of Mis-steps and Falls*, University of Victoria (Undated).

Government of Canada, *Advancing the Inclusion of People with Disabilities*, 2005.

Gutman, G. (Ed), *Technology Innovation for an Aging Society: Blending Research, Public & Private Sectors,* Gerontology Research Center, Simon Fraser University, 1998.

Hall, M., D. Lasby, G. Gumulka, and C. Tryon, *Caring Canadians, Involved Canadians: Highlights from the 2004 Canada Survey of Giving, Volunteering and Participatin*g, Imagine Canada, 2006.

Hendrickson, C., and W. Mann, "Changes Over Time in Community Mobility of Elders with Disabilities," *Physical & Occupational Therapy in Geriatrics*, 23(2/3), 2005.

Howe, D., *Aging and Smart Growth: Building Aging-Sensitive Communities, Translation Paper Number Seven,* Funders' Network for Smart Growth and Livable Communities, December 2001.

International City/County Management Association, *Active Living for Older Adults: Management Strategies for Healthy and Livable Communities,* September 2003.

Kelley, M., "How the Aging Network Can Work with Business: An Overnight Success After Thirty Years," *Generations*, American Society on Aging, Winter 2004-2005.

Kerschner, H., and R. Aizenberg, *Transportation in an Aging Society: Focus Group Project*, November 1999.

Kochera, A., A. Straight, and T. Guterbock, *Beyond 50.05 A Report to the Nation on Liveable Communities: Creating Environments for Successful Aging*, AARP Public Policy Institute, May 2005.

Larson, C., C. Pepper-Kittredge, and J. Twiss. *A Healthy Community Perspective on Aging Well*, Center for Civic Partnership, Public Health Institute, 2006.

Larson, E., L. Wang, J. Bowen, W. McCormick, L. Teri, P. Crane, and W. Kukull, "Exercise is Associated with Reduced Risk for Incident Dementia in Persons 65 Years of Age and Older," *Annals of Internal Medicine,* January 17, 2006.

Mendes de Leon, C., T. Glass, and L. Berkman, "Social Engagement and Disability in a Community Population of Older Adults," *American Journal of Epidemiology*, Vol. 157, No. 7, 2003.

Merles, P., Director, South East Senior Housing Initiative, Testimony to United States Senate, Hearing on Elderly Fall Prevention, Committee on Health, Education, Labor, and Pensions, Subcommittee on Aging, June 11, 2002.

Metz, D., Transportation Policy for an Ageing Population, *Transport Reviews* 23(4): 375-386, 2003.

Mitcham, P., Commissioner of Community Services, City of Mississauga, Corporate *Report: Older Adult Plan,* June 2007.

Moore, E. and M. Pacey, "Social and Economic Dimensions of an Aging Population (SEDAP)," *Geographic Dimensions of Aging in Canada 1991-2001,* March 2003.

Moos, R., "Boomer home-bodies: Accommodating those who age in place," *Dallas Morning News,* November 27, 2004.

National Association of Area Agencies on Aging, *The Maturing of America – Getting Communities on Track for an Aging Population*, September 2006.

National Association of Area Agencies on Aging, "Aging in Place Initiative, Best Practices," http://aipi.n4a.org/best_bractices.htm, accessed September 29, 2006.

IEc

National Association of Home Builders, "Learn About Aging in Place and What a Professional Can Do for You," http://www.nahb.org/generic.aspx?sectionID=717&genericContentID=46799&print=false, accessed on October 1, 2006.

New York State Commission on Rural Resources, *A Guide to Planned Unit Development*, Fall 2005.

Nussbaum, P., "Five Brain-Health Factors," *Aging Today,* American Society on Aging, September-October, 2007.

Office of the Auditor General of Canada, *2007 Report of the Commissioner of the Environment and Sustainable Development*, 2007.

Oswald, F., H. Wahl, O. Schilling, C. Nygren, A. Fänge, A. Sixsmith, J. Sixsmith, Z. Széman, S. Tomsone, and S. Iwarsson, **"**Relationships Between Housing and Healthy Aging in Very Old Age," *The Gerontologist,* 47:96-107, 2007.

Partners for Livable Communities, "Aging in Place: The Issue," http://www.livable.com/aging/issue.htm, accessed October 1, 2006.

Pollak, P., *Liveable Communities: A Guide for Evaluation,* AARP, 2000.

Public Health Agency of Canada (PHAC), Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), http://www.phac-aspc.gc.ca/injury-bles/chirpp/injrep-rapbles/index.html, accessed on May 2007.

Scott, M. (Ed), *Aging in Place: Planning for the 21st Century, Proceedings of a Housing and Planning Conference Held on November 6-7, 1997 SFU at Harbour Centre, Vancouver, British Columbia,* Gerontology Research Centre, Simon Fraser University, 1999.

Scott, V., S. Dukeshire, S. Gallagher, and A. Scalan, *A Best Practices Guide for the Prevention of Falls Among Seniors Living in the Community*, prepared on behalf of the Federal/Provincial/Territorial Committee of Officials (Seniors) for the Ministers Responsible for Seniors, September 2001.

Seattle Senior Services, *Report to Community 2006*, 2006.

Smart Growth America, "Elements of Smart Growth," http://www.smartgrowthamerica.org/ accessed on October 25, 2006.

Smart Growth America, "Smart Growth Online: Overview of Issues," http://www.smartgrowth.org/about/issues/default.asp accessed on October 24, 2006.

Smart Growth BC, *The Smart Growth Toolkit.* 2001.

Smart Growth, Livable and Sustainable Communities for Seniors: Phase I Literature Review, prepared for CMHC by Industrial Economics, Inc., December 5, 2006.

Smart Growth, Livable and Sustainable Communities for Seniors: Phase II Report on Focus Groups, prepared for CMHC by Industrial Economics, Inc., January 3, 2007.

Smart Growth, Livable and Sustainable Communities for Seniors: Phase III Report On Indicator Development, prepared for CMHC by Industrial Economics, Inc., July 5, 2007.

Smart Growth, Livable and Sustainable Communities for Seniors: Phase IV Case Study Report, prepared for CMHC by Industrial Economics, Inc., November 8, 2007.

Smart Growth, Livable and Sustainable Communities for Seniors: Phase V Report On Indicator Pilot Testing, prepared for CMHC by Industrial Economics, Inc., November 29, 2007.

Smart Growth Network, "Smart Growth Online: Overview of Issues," http://www.smartgrowth.org/about/issues/default.asp, accessed on October 24, 2006.

Smart Growth on the Ground, *A Sustainable Vision for Downtown Squamish,* 2005, http://www.sgog.bc.ca/uplo/SqNews2.pdf, accessed July 11, 2007.

State of Florida, Communities for Lifetime Initiative, http://www.communitiesforalifetime.org/what.html, accessed August 8, 2007.

Statistics Canada, "A Portrait of Seniors," *The Daily*, February 27, 2007.

Statistics Canada, Canadian Centre for Justice Statistics Profile Series, 2007, http://www.statcan.ca/bsolc/english/bsolc?catno=85F0033M, accessed May 2007.

Statistics Canada, General Social Survey: An Overview, 2007, http://www.statcan.ca/bsolc/english/bsolc?catno=89F0115X&CHROPG=1, accessed May 2007.

Sustainable Communities Network, "About Sustainable Communities," http://sustainable.org/information/aboutsuscom.html, accessed on October 25, 2006.

Tomic, S., Canadian Institute of Planners, "Hamilton Urban Braille System: Urban Design for an Aging Society," *Plan Canada*, Spring 2003.

Transport Canada, Canadian Motor Vehicle Traffic Collision Statistics, accessed at http://www.tc.gc.ca/roadsafety/stats/menu.htm.

Transit Cooperative Research Program and the National Research Council, *The Cost of Sprawl 2000*, 2002.

Turcotte, M., "Seniors' Access to Transportation," Statistics Canada, Catalogue No. 11-008, Winter 2006.

United States Department of Health and Human Services, Administration on Aging, "A Profile of Older Americans: 2005," *Conference on Aging Final Report Attachment*, 2005.

United States Department of Health and Human Services, Administration on Aging, *Seniors Benefit from Transportation Coordination Partnerships-A Toolbox*, September 2005.

IEc

United States Environmental Protection Agency, *Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation and Environmental Quality*, November 2000.

UK Ministry of Communities and Local Government, "What is a Sustainable Community?", http://www.communities.gov.uk/index.asp?id=1139866, accessed on December 4, 2006.

"Vancouver tops liveability ranking according to a new survey by the Economist Intelligence Unit," *Economist Intelligence Unit*, 2005, http://store.eiu.com/index.asp?layout=pr_story&press_id=660001866&ref=pr_list, accessed on October 25, 2006.

Wister, A., G. Gutman, R. Adams, and B. Chou, *Fact Book on Aging in British Columbia*, Gerontology Research Center, Simon Frasier University, 2006.

Wister, A., Y. Carrière, A. Sauter, and M. McWhirter, *Older Drivers in British Columbia: Predicting Future Patterns and Assessing Strategies for Prevention of Accidents, A Report for the Insurance Corporation of British Columbia's SMART Program,* 2000.

IEc

ATTACHMENT B | FOCUS GROUP GUIDE

IEc

FOCUS GROUP INSTRUCTIONS

Prepare Focus Group kits that include:

- Information sheet

- Informed consent form

- Blank name tag

- Pencil

If participants come early have them fill out the forms before the discussion begins and when completed, return them to the envelopes.

GENERAL PROCEDURES

Ask everyone to be seated.

Make opening remarks. If they haven't already done so, have participants fill out the forms in their envelope. Have forms reinserted in the envelopes. Collect the envelopes.

Go over the procedure for the focus group. Ask for questions and provide the necessary answers.

Start with the introductory question, then continue moving through all topics until complete.

At the end of the focus group, thank all the participants, answer any questions that they may have.

OPENING COMMENTS

Hello, my name is_____ and I am (insert short description of position or background). Thank you for joining us today and for your willingness to share your opinions about how community characteristics, including transportation options, walkability of neighbourhoods, housing choice, and access to services, inform seniors' decisions to "age in place" or move residences. "Aging in place" refers to the ability to continue to live independently in your home and community for as long as possible even if you become frail or develop disabilities. The study that you'll be participating in today is part of a broader research being undertaken for the Canada Mortgage and Housing Corporation (CMHC) on how land use planning intersects with the needs of Canada's aging population.

Before I go any further, a very important point I want to stress about today's discussion is that CONFIDENTIALITY IS ASSURED. While the opinions you express will be communicated to CMHC, your names will remain confidential. No opinion will be identified with any specific participant. (As you probably noted) the information sheet you (completed/will be asked to complete in a few minutes) does not ask for your name. Note as

well that your name tag has only your first name on it, *(and for Vancouver focus group only*…. the Informed Consent Form you signed binds us legally to maintain confidentiality).

We are carrying out another focus group discussion like this one in (Montreal/Vancouver). The data collected will provide some very useful information about how community characteristics support or pose challenges to senior citizens, and how seniors consider community characteristics in their decision-making around where to live as they get older.

Do you have any questions so far?

(After answering questions, if they have not filled out the forms, say: "Now would you please open your envelope and fill out the forms in it.")

I will now explain today's procedure. We have some questions about where you plan to live as you get older, as well as features of your current and potential future neighbourhood that may affect your decision-making. Features we are particularly interested in include housing choices, transportation options, the walkability of neighbourhoods. By walkability, we mean the presence of features that encourage walking, such as sidewalks, safe crossings, and the close proximity of buildings to one another.

Please note that there are no right or wrong answers and most likely there will be a number of points of view. It is not necessary to agree with each other and all opinions or ideas are valid. Your role is to participate. We are interested in everyone's ideas and viewpoint. Please share your opinions with the group like you would with friends, colleagues and neighbours. Talk to the group, not just to me.

While we want each participant's view, if your view has already been well presented, just say so. It's not necessary to repeat your idea in detail. On the other hand, if your idea has only been partially discussed, it is important for you to speak up.

My role as moderator is to steer conversation and see that everyone participates. While I may have opinions, I am not here to give them.

You will notice that there is a tape recorder and microphone in the room. With your permission, we'd like to tape the discussion so we don't miss anything. Once we've reviewed the tapes, they will be destroyed.

Are there any questions or comments you would like to make before we begin our discussion?

DISCUSSION QUESTIONS

Introductory question: "How many of you are planning to stay in your current home as you get older?"

1. For those of you planning on staying in your homes as you age, what are your plans for supporting that decision (e.g., enlist family help, renovate your home)?

2. For those of you planning on moving at a certain point:

2a: Why do you plan on moving?

2b: What type of housing do you think you would move into?

2c: What will you look for in a new neighbourhood (e.g., affordability, ability to walk to services, better transit)?

For those of you planning on staying in your home as you age:

2d. Why do you plan to stay?

2e. What do you like about your housing?

2f. What do you like about your current neighbourhood (e.g., affordability, ability to walk to services, the availability of transit)?

3. What is the biggest transportation challenge living in your current neighbourhood?

3a: How do your transportation challenges vary from summer to winter?

4. Are there places that you would like to walk to but can't in your current neighbourhood?

4a. If yes, which places?

4b. If yes, what prevents you from walking there?

5. What would make it easier and/or safer for you to walk from place to place (e.g., buildings or services closer together, better sidewalks, safer crosswalks, less crime, etc.)?

6. How do you feel about driving as you get older?

6a: Do you plan on making (additional) modifications to your driving pattern (e.g., less driving at night or on highways)?

7. What improvements to public transportation would make you want to use it (more)? (e.g., better schedule, better connections, more stops at places you want to go, safer/cleaner, easier to understand)?

8. Have you ever missed a community event or other engagement because transportation was a problem? If yes, what would have made a difference and allowed you to attend the event?

9. We have discussed potential changes that would improve the characteristics of your neighbourhood for seniors; are there other changes that we haven't discussed that would improve the ability of seniors to "age in place" in your neighbourhood?

10. Now that we have discussed many changes that would make a neighourhood good to live in as you age, which ones are the most important? Could you prioritize them?

IEc

CMHC STUDY

SMART GROWTH, LIVABLE COMMUNITIES, AND SUSTAINABLE COMMUNITIES: IS IT GOOD FOR SENIORS?

FOCUS GROUP PARTICIPANT INFORMATION

Some information is needed about you so that we may describe the overall characteristics of our volunteers. Please complete this information sheet by marking the proper line or writing in the answer. If you have a question, ask the group leader.

Background Information:

1. Age at last birthday _____

2. Sex: Male_____   Female_____

3. Present Marital Status:

   Married_____   Widowed_____   Divorced_____   Never Married_____

4. Do you have any health problems or disability? yes_____   no_____

   - 4a. If yes, please specify:

   _____

   _____

Housing:

5. What type of home do you currently live in?

   Single Family House_____Duplex_____Row House_____Townhouse_____

   Apartment_____Mobile Home_____Other_____

                                                      (Specify)

6. How long have you lived there? _____ (years)

7. Do you own or rent your home? own_____   rent_____

8. Do you live alone? yes_____   no_____

   - 8a. If no, and you live with your spouse, would you remain in your home if you were widowed? yes_____   no_____

   - 8b. If yes, do you plan on remaining in your home indefinitely?

     yes_____   no_____

Neighbourhood:

9. Are you able to walk to the following services in under 10 minutes? Please answer yes or no.

	During the Summer	During the Winter
Grocery store		
Bank		
Recreational centre		
Theatre		
Library		
Pharmacy		
Your doctor's office		

9a. If you answered "no" to any of the questions above, are you still able to get to them by other means (e.g. by car)? If not, why?

	I am able to get to it.	I am not able to get it.
Grocery store		
Bank		
Recreational centre		
Theatre		
Library		
Pharmacy		
Your doctor's office		

Transportation:

10. Please indicate how often you use the following means of transportation:

10a. driving: every day_____ more than once a week_____

less than once a week_____ never _____

10b. public transportation: every day_____ more than once a week_____

less than once a week_____ never _____

If never, please describe why:_____

10c. walking: every day_____ more than once a week_____

less than once a week_____ never _____

10d. Other (specify)_____

every day_____ more than once a week_____

less than once a week_____ never _____

11. If you drive, have you made any modifications to your driving patterns related to age or infirmity? yes_____ no____

11a. If yes, what types of modifications?

less night driving: yes_____ no____

less highway driving: yes_____ no____

less rush hour driving: yes_____ no____

other (specify)_____

12. Do you currently use the help of others to get from place to place?

yes_____ no____

12a. If yes, who helps you?_____

12b.   If yes, how often do you receive assistance in getting from place to place?

every day_____ more than once a week_____ less than once a week_____

Safety:

13. Do you feel safe walking in your neighbourhood?

during the day? yes_____ no____

at night? yes_____ no____

14. Do you feel safe taking public transportation?

during the day? yes_____ no____

at night? yes_____ no____

IEc

ATTACHMENT C | TABLE OF PRELIMINARY INDICATORS

IEc

ATTACHMENT C: TABLE OF PRELIMINARY INDICATORS

This table contains preliminary indicators, which can be used to measure the aspects and elements of a community that are of particular benefit to the health, quality of life, and well-being of older citizens.

	WALKABILITY	TRANSPORTATION OPTIONS	SAFETY	HOUSING CHOICE	ACCESS TO SERVICES	COMMUNITY ENGAGEMENT
1	Proportion of housing within walking distance (usually defined as ½ km or ¼ mile) to public transportation (could be further categorized by new versus existing housing stock).	Percent of residents age 65+ who use public transportation every day, once a week, once a month, or never.	Proportion of residents age 65+ who report feeling safe/unsafe in their neighborhood.	Proportion and number of residences in the community categorized by housing type: multi-family home, single-family home, duplex, townhouse, rowhouse, mobile home, flex housing, garden flats, accessory dwelling units, and other (could be further categorized by new versus existing housing stock).	Proportion of housing within walking distance (usually defined as ½ km or ¼ mile) to the following basic services: pharmacy, grocery store, and bank.	Proportion of residents 65+ who socialized with friends or neighbors in the past week.
2	Average distance between pedestrian resting places (e.g., benches) along sidewalks.	Average number of trips taken on public transportation by residents age 65+.	Proportion of streets (by linear km/mile) that lack adequate lighting for walking at night.	Occupancy rates at existing lifestyle retirement, senior residences, and supportive housing in the community.	Proportion of housing within walking distance (usually defined as ½ km or ¼ mile) OR within a 20 minute walking plus transportation trip to the following services: pharmacy, grocery store, bank, hospital, senior center, retail shopping.	Proportion of residents age 65+ who engaged in at least one civic, religious, or cultural activity in the past week.
3	Proportion of streets (by linear km/mile) in the community that contain sidewalks.	Average number of times per week that residents 65+ report staying at home because of lack of transportation.	Number of police patrols in the community per week.	Types of tenure available in the community (freehold homeownership, rental condominium, cooperative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure).	Proportion of residents 65+ that require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, senior center, retail shopping.	Proportion of residents age 65+ who participate in volunteer work.
4	Proportion of sidewalks (by linear km/mile) that could be defined as well-maintained (i.e., no badly cracked or broken pavement).	Of residents age 65+ who use "dial-a-ride" or door-through-door transportation, percent who are satisfied with the service.	Annual number of slip and fall injuries on sidewalks and in public spaces.	Proportion of residents 65+ who spend greater than 30 percent of their income on housing (existing CMHC affordability indicator).	Proportion of residents 65+ who have access to home delivery of groceries and other retail goods.	Proportion of residents 65+ that are able to access a dedicated senior center.

IEc

	WALKABILITY	TRANSPORTATION OPTIONS	SAFETY	HOUSING CHOICE	ACCESS TO SERVICES	COMMUNITY ENGAGEMENT
5	Average number of walks per week taken by residents age 65+ (categorize by length/time of walk).		Number of reported street crimes against residents ages 65+ (categorize by type of crime, e.g., assault versus robbery).	Proportion of residents age 65+ living in housing with unmet home modification needs (e.g., narrow hallways, stairs, lack of bathroom grab bars).	Proportion of residents 65+ who are able to afford home delivery of groceries and other retail goods.	
6	Annual number of pedestrian injuries and fatalities from automobile accidents (could be further categorized by victim age).			Proportion of households living in "acceptable" housing (meeting adequacy, suitability, and affordability standards) in the community (existing CMHC core housing acceptability indicator).		

Resources consulted in developing the above table of indicators include:

. AARP Public Policy Institute, Livable Communities: An Evaluation Guide, 2005.
2. Pollak, P., Liveable Communities: A Guide for Evaluation, AARP. 2000.
3. Center for Home Care and Policy Research, Visiting Nurse Service of New York, "The AdvantAge Initiative." Undated.
4. CMHC, Smart Growth in Canada: Implementation of a Planning Concept, August 2005.
5. CMHC, "2001 Census Housing Series: Issue 3 Revised, The Adequacy, Suitability, and Affordability of Canadian Housing," Research Highlight, April 2004.
6. CMHC, Smart Growth, Livable Communities, and Sustainable Communities: Is It Good for Seniors? Montreal Focus Group, December 4, 2006.
7. CMHC, Smart Growth, Livable Communities, and Sustainable Communities: Is It Good for Seniors? Vancouver, BC Focus Group, December 11, 2006.
8. Kochera, A. et al., Beyond 50.05. A Report to the Nation on Liveable Communities: Creating Environments for Successful Aging, AARP Public Policy Institute, May 2005.
9. Environment Canada, Guidelines for the Development of Sustainability Indicators, Sustainable Community Indicators Program (SCIP), August 2001.
10. National Association of Area Agencies on Aging, The Maturing of America - Getting Communities on Track for an Aging Population, September 2006.
11. Turcotte, M., "Seniors' Access to Transportation," Statistics Canada, Catalogue No. 11-008, Winter 2006.

INDUSTRIAL ECONOMICS, INCORPORATED

ATTACHMENT D | INTERVIEW PROTOCOL

IEc

Smart Growth, Livable Communities, and Sustainable Communities:
Is It Good for Seniors?

QUESTIONS FOR EXPERTS

In considering the following questions, please refer to the attached table of indicators of smart growth, and livable and sustainable community features of interest to older residents.

1. Of the indicators included in each category (e.g., walkability, housing choice), please identify one or more indicators in order of priority that you think are most useful in measuring a community's responsiveness to the challenges identified in meeting the needs of older residents associated with land-use planning and the built environment. For each indicator that you identify as most useful, provide a short explanation for your selection.

2. Would you suggest that CMHC consider other specific indicators of community responsiveness to the challenges identified? If so, what are they, and what would they measure?

3. For the indicators that you recommend for Questions 1 and 2 above, what measurement approaches would you suggest? Please provide information on any data sources that you know of which would support the measurement approaches recommended.

4. For the indicators that you recommend for Questions 1 and 2 above, would you recommend any changes to the indicator wording to make the wording resonate better with local planners and policy-makers?

We also have a few general questions to inform the study.

5. We are interested in any broader advice that you may have for addressing the categories of challenges that we have identified related to land-use planning, the built environment, and the needs of older residents. In your experience, what are the most successful planning tools, policies, or other strategies for addressing these challenges?

6. Has your local government introduced any of the features/elements of smart growth, livable, or sustainable communities that are of particular benefit to the health, quality of life, and well-being of the senior population?

    - If yes, what are these, and how did your community achieve them?

    - If no, what is the potential of your local government addressing these issues, what are the most likely features/elements to be introduced, and how would this be done?

IEc

7. Another objective of this study is to identify and develop case studies on communities in Canada and elsewhere which exemplify how the features/elements of smart growth, livable, and sustainable communities have been introduced to meet the needs and preferences of older residents. Would you recommend any communities for a case study? If yes, please specify and indicate why you recommend the community(ies).

8. Finally, please indicate if your educational and professional background is in planning or another discipline. If another discipline, please specify.

IEc

Dear *[expert name]*:

Hello, my name is Neal Etre and I am with the firm IEc, a public policy consulting firm in Cambridge, Massachusetts. I am contacting you today regarding a study we are conducting for the Canada Mortgage and Housing Corporation (CMHC). The objective of the study is to explore how land use planning and the built environment intersects with the needs of Canada's aging population. Specifically, we are exploring how the concepts of smart growth, and sustainable and livable communities can respond to the desire of many citizens to "age in place," as opposed to move to a different home or community when they get older.

To date, we have conducted a literature review and focus groups that have identified challenges in meeting the needs of older residents associated with land-use planning and the built environment in six key areas: neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in local land-use decisions. As part of this research, we are developing a set of indicators and tools for communities and local governments to use to measure their progress in addressing these challenges. We understand that you have expertise related to this issue, and we would like to solicit your feedback on the development of indicators.

To solicit feedback, we have developed the attached (1) short list of questions and (2) table of potential indicators designed to measure community progress in meeting the needs of older residents associated with land-use planning and the built environment. We identified these indicators from existing literature and are using them as a starting point for further indicator development and refinement.

We would appreciate your feedback in any way that is convenient for you, although we are hoping to collect all feedback by *[insert date]*. If you would like to e-mail back responses to the attached questions, please (1) notify us as soon as possible that you will be sending us responses, and (2) please send your responses by *[insert date]*. Alternatively, we would be happy to set up a time to talk with you over the phone. If you would rather have a phone conversation, please e-mail me some dates and times that you would be available for a half-hour call between now and *[insert date]*, and I will contact you to set up an interview time.

Thank you in advance for your consideration and input.

Sincerely,

Neal Etre, IEc

IEc

ATTACHMENT E | INTERVIEWEES FOR INDICATOR DEVELOPMENT

IEc

RESPONDENT	AFFILIATION	DISCIPLINE	INTERVIEW TYPE
George Adams	Urban Design Manager, Neighborhood Planning and Zoning Department, City of Austin, Texas	Planner	Phone
Don Alexander	Professor, New City Institute	Planner	Email
Lynn Armstrong	Landscape Planner, Ontario Association of Landscape Architects	Planner	Email
Jone Belausteguigoitia	School of Architecture, University of British Columbia	Planner	Email
Don Buchanan	Transportation Planner, Translink, Greater Vancouver Transportation Authority	Planner	Email
Marnie Cappe	Planner, Canadian Institute of Planners	Planner	Phone
Angela Dietrich	Manager, Policy Planning Division, Planning and Building Department, City of Mississauga	Planner	Email
Mary Edwards	Assistant Professor, Department of Urban and Regional Planning, University of Illinois at Urbana-Champaign	Planner	Email
Geoff Fernie	Vice-President, Research, Toronto Rehabilitation Institute, University of Toronto	Informant	Email
Eugene Ferraro	Director, Metropolitan Planning, Department for Planning and Infrastructure, Western Australia	Planner	Phone
Austin French	Project Manager, Halifax Regional Municipality, Regional Planning, Governance and Strategic Planning	Planner	Email
Nancy Gnaedinger	Consultant in Gerontology	Informant	Phone
Jill Grant	Director, School of Planning, Faculty of Architecture and Planning, Dalhousie University	Planner	Email
Nadene Henningsen	Executive Director, Canadian Home Care Association	Informant	Email
Cheeying Ho	Executive Director, Smart Growth British Columbia	Informant	Phone
Gerald Hodge	Urban Planner	Planner	Phone

IEc

RESPONDENT	AFFILIATION	DISCIPLINE	INTERVIEW TYPE
Deborah Howe	Professor, Urban Studies and Planning, Temple University	Planner	Phone
Helene Iardas	Planner, Urban Design, City of Toronto	Planner	Email
Joe Johnson	Planner, Development Services Department, City of Grand Prairie, Alberta	Planner	Phone
Richard Kendall	Project Coordinator, Markham Centre, Development Services Commission	Informant	Email
Chris Leach	President, Canadian Institute of Planners	Planner	Phone
Bill Mann	Senior Manager of Planning Policy, Town of Milton, Ontario	Planner	Phone
Ann McAfee	President, City Choices Consulting	Planner	Email
Ken Petersen / Kyle McIntyre	Ontario Ministry of Municipal Affairs and Housing	Informant	Phone
Bonnie Schroeder	Project Manager, National Programs, VON Canada	Informant	Email
Vicky Scott	Senior Advisor on Falls Prevention, British Columbia Injury Research and Prevention Unit, Ministry of Health Services	Informant	Phone
Janet Thomas	Director of Planning, Research and Evaluation, Department of Family and Community Services, Government of New Brunswick	Informant	Email
Gloria Venczel	Executive Director, Smart Growth Canada Network	Planner	Phone
Paul Vieira	Chief Executive Officer, Hay River Health and Social Services Authority	Informant	Email
Valerie White	Executive Director, Nova Scotia Seniors Secretariat	Informant	Phone

IEc

ATTACHMENT F | INDICATOR PILOT TEST PROTOCOL

IEc

October 1, 2007

Name
Department
Address

Dear Planner:

Thank you for agreeing to assist the Canada Mortgage and Housing Corporation (CMHC) with their work on the project, *Smart Growth, Livable and Sustainable Communities: The Relationship to Aging in Place.* Industrial Economics, Incorporated (IEc) is under contract with CMHC to conduct this study. As you may know, the objective of the study is to explore how land use planning and the built environment intersect with the needs of Canada's aging population. Specifically, we are exploring how the concepts of smart growth, and sustainable and livable communities can respond to the desire of many citizens to "age in place," as opposed to move to a different home or community when they get older.

As part of this effort, we conducted a literature review and focus groups that have identified challenges in meeting the needs of older residents associated with land-use planning and the built environment in six key areas: neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in local land-use decisions. We also developed a set of indicators for communities and local governments to use to measure their progress in addressing these challenges. Over 30 experts in the fields of planning, public administration, gerontology, and social work have reviewed the indicators and provided extensive feedback. We used their input to refine the indicator set.

Thank you for graciously agreeing to pilot test the indicators using data available for your community. The pilot test is a critical step in the indicator development process and will help ensure that the final indicator set will be useful to planners. Your participation will also help us determine the final language for each indicator. Attached to this letter is a table containing the indicators and set of instructions to guide you through the pilot test. **Please complete and return the pilot test table (electronically) to IEc by October 22, 2007.** If you have any questions or concerns, please call me at the number below. Once again, thank you very much for your willingness to participate in this project. Your time and effort is greatly appreciated.

Sincerely,

Neal Etre
Associate
Industrial Economics, Inc.

Enclosures

INDUSTRIAL ECONOMICS, INCORPORATED

Through research conducted for this project, IEc identified six key areas associated with aging in place and the built environment: neighbourhood walkability, transportation options, access to services, housing choice, safety, and community engagement in local land-use decisions. For each category, we developed a suite of indicators designed to help communities measure progress in addressing the challenges associate with aging in place.   The indicators, organized by category, are listed in Column A in the table below.

Please select two to four indicators within each of the six categories to pilot test. Select indicators that you believe are most relevant to your community and would be most helpful to your planning efforts. Please fill out you answers, electronically, in the table below.

For each indicator you choose to pilot test, please complete the following steps:

1. In Column C, enter the reason(s) why you selected this indicator (e.g., data availability, relevancy to issues in the community, etc.). For the indicators you did *not* choose, please enter the reason(s) for not selecting them (e.g., not appropriate for the community, data is not available, etc.).

2. Locate readily available data sources to respond to the indicator. Column B provides suggestions of sources that may contain information to help you respond to the indicator. You may find that your city department/local government has more relevant information. In some cases, data may not be readily available. **Note: please locate only *readily available* data sources to complete the pilot test. We do not intend for you to conduct primary research. However, we expect that you may contact colleagues or other government departments to locate useful data sources.**

3. In Column D, indicate the data source(s) you will use to respond to the indicator. If you cannot locate the appropriate data sources, indicate the data source(s) you would use, if available.

4. In Column E, provide the response to the indicator question reflecting the data located in Step 2 above. If you were unable to locate data in Step 2, leave this cell in the table blank.

5. Column F provides an opportunity for you to provide comments on the indicators themselves and the pilot test in general. Consider the following: *Do you suggest any changes to the language to clarify the text? How quickly/easily were you able to locate appropriate data for this indicator? How well does the available data align with the indicator?*

Please email your completed table to <u>netre@indecon.com</u> by October 22, 2007. If you have any questions, please call Neal at 617.354.0074.

IEc

TABLE OF TEST PILOT INDICATORS FOR SMART GROWTH AND AGING IN PLACE

	A	B	C	D	E	F
	INDICATOR	SUGGESTED DATA SOURCES	REASON FOR SELECTING / NOT SELECTING INDICATOR	DATA SOURCE USED/ REQUIRED TO RESPOND TO INDICTATOR	INDICATOR RESPONSE	GENERAL PILOT TEST COMMENTS
WALKABILITY						
1	Proportion of housing within walking distance (500 metres) to public transportation (could be further categorized by new versus existing housing stock by local government).	Local planning data				
2	Average distance between pedestrian resting places (e.g., benches) along sidewalks.	Local planning data				
3	Proportion of streets (by linear km/mile) in the community that contain sidewalks. Specifically, the proportion of streets that contain: a) sidewalk on both sides, b) sidewalk on one side, or c) no sidewalks.	Local planning data				
4	Proportion of sidewalks (by linear km) that could be defined as in good repair (i.e., no badly cracked or broken pavement).	Local planning data				

IEc

	A	B	C	D	E	F
	INDICATOR	SUGGESTED DATA SOURCES	REASON FOR SELECTING / NOT SELECTING INDICATOR	DATA SOURCE USED/ REQUIRED TO RESPOND TO INDICTATOR	INDICATOR RESPONSE	GENERAL PILOT TEST COMMENTS
5	Average number of walks per day/week/month taken by residents age 65+ (local government should categorize by destination, season/length/time of walk).	Special purpose surveys				
6	Annual number of pedestrian: 1) injuries and 2) fatalities from accidents with automobiles, categorized by: a) victim age, b) season, and c) reason for accident.	Canadian Motor Vehicle Traffic Collision Statistics (Transport Canada)				
7	Proportion of sidewalks cleared during/after a snow fall/freezing rain.	Municipal public works departments				
TRANSPORTATION OPTIONS						
1	Proportion of residents age 65+ who travel every day, once a week, once a month, or never, categorized by: a) mode of transportation, b) destination, and c) season.	Special purpose surveys / 2007 General Social Survey (Statistics Canada)				
2	Average number of trips taken on public transportation every day, once a week, once a month by residents age 65+.	Focus group with seniors, special purpose surveys / General Social Survey (Statistics Canada)				

	INDICATOR	SUGGESTED DATA SOURCES	REASON FOR SELECTING / NOT SELECTING INDICATOR	DATA SOURCE USED/ REQUIRED TO RESPOND TO INDICTATOR	INDICATOR RESPONSE	GENERAL PILOT TEST COMMENTS
	A	B	C	D	E	F
3	Average number of times per week that residents 65+ report staying at home because of lack of transportation.	Focus group with seniors, special purpose surveys / General Social Survey (Statistics Canada)				
SAFETY						
1	Proportion of residents age 65+ who report feeling safe/unsafe in their neighborhood, categorized by: a) time of day, b) location, and c) reason(s) for feeling unsafe.	Focus group with seniors, special purpose surveys				
2	Proportion of streets, pedestrian routes (by linear km), bus stops, public places, and retail areas that lack adequate lighting for walking at night.	Local planning data				
3	Annual number of slip and fall injuries on sidewalks and in public spaces, categorized by: a) season, b) type of injury, and c) place of fall.	Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) (Public Health Agency of Canada)				
4	Number of reported street crimes against residents ages 65+, categorized by: a) type of crime, b) location of crime, and c) time of day.	Crime statistics (Statistics Canada) / Canadian Centre for Justice Statistics / 2008 General Social Survey				

IEc

	A	B	C	D	E	F
	INDICATOR	SUGGESTED DATA SOURCES	REASON FOR SELECTING / NOT SELECTING INDICATOR	DATA SOURCE USED/ REQUIRED TO RESPOND TO INDICTATOR	INDICATOR RESPONSE	GENERAL PILOT TEST COMMENTS
5	Availability of wayfinding systems/safety features at crosswalks (e.g., longer crossing times, clear signage, visible sight lines, crossing noise for the visually impaired, safe design, etc).	Local planning data				
HOUSING CHOICE						
1	Proportion and number of residences in the community categorized by housing type: multi-family home, single-family home, duplex, townhouse, rowhouse, mobile home, flex housing, garden flats, accessory dwelling units, and other (could be further categorized by new versus existing housing stock).	Local planning data / CMHC				
2	Occupancy rates at existing lifestyle retirement, senior residences, and supportive housing in the community.	Local planning data / CMHC / Census				
3	Types of tenure available in the community (freehold homeownership, rental condominium, cooperative housing, co-housing, leaseholds, shared equity ownership, life leases, life tenancies, flexible tenure).	Local planning data / 2008 General Social Survey (Statistics Canada) /Census				

IEc

	A	B	C	D	E	F
	INDICATOR	**SUGGESTED DATA SOURCES**	**REASON FOR SELECTING / NOT SELECTING INDICATOR**	**DATA SOURCE USED/ REQUIRED TO RESPOND TO INDICTATOR**	**INDICATOR RESPONSE**	**GENERAL PILOT TEST COMMENTS**
4	Proportion of residents 65+ who spend equal to or greater than 30 percent of their income on housing.	CMHC / Census				
5	Proportion of residents age 65+ living in housing with unmet home modification needs (e.g., narrow hallways, stairs, lack of bathroom grab bars, adequate lighting).	CMHC				
6	Proportion of households living in "acceptable" housing (meeting adequacy, suitability, and affordability standards) in the community, categorized by age cohort.	CMHC				
ACCESS TO SERVICES						
1	Proportion of housing within walking distance (500 metres) to the following basic services: pharmacy, grocery store, and bank.	General Society Survey (Statistics Canada) / Local planning data				

IEc

	A	B	C	D	E	F
	INDICATOR	**SUGGESTED DATA SOURCES**	**REASON FOR SELECTING / NOT SELECTING INDICATOR**	**DATA SOURCE USED/ REQUIRED TO RESPOND TO INDICTATOR**	**INDICATOR RESPONSE**	**GENERAL PILOT TEST COMMENTS**
2	Proportion of housing within walking distance (500 metres) OR within a 10 minute car/public transportation trip to the following services: pharmacy, grocery store, bank, hospital, senior center, retail shopping.	General Society Survey (Statistics Canada) / Local planning data				
3	Proportion of residents 65+ that require assistance from family members or other individuals to access the following services: pharmacy, grocery store, bank, hospital, senior centre, retail shopping, libraries and community halls.	Local planning data				
4	Proportion of residents 65+ who have access to home delivery of groceries and other retail goods.	Local planning data / 2008 General Social Survey (Statistic Canada)				
COMMUNITY ENGAGEMENT						
1	Proportion of residents 65+ who engage in social activities at least once per week. Activities may include: meeting with friends/neighbors, engaging in civic, religious, or cultural activities, and participating in volunteer or part time work.	Focus group with seniors, special purpose surveys / 2008 General Social Survey (Statistics Canada)				

IEc

	A	B	C	D	E	F
	INDICATOR	**SUGGESTED DATA SOURCES**	**REASON FOR SELECTING / NOT SELECTING INDICATOR**	**DATA SOURCE USED/ REQUIRED TO RESPOND TO INDICTATOR**	**INDICATOR RESPONSE**	**GENERAL PILOT TEST COMMENTS**
2	Proportion of residents 65+ that are able to access a dedicated senior centre or other places of interest such libraries and community centres.	Focus group with seniors, special purpose surveys				
3	The extent to which local government has land use policy and planning programs that specifically engage seniors.	Local government data				