New Changwon, People-Oriented City

# Action Plan for An Age-Friendly Changwon City

May 2020



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# Introduction

# 1. Planning Background

- As of 2019, the percentage of Korea's senior population is 14.9%, which is the fastest aging in the world.
  - In 2018, the population of senior citizens exceeded 14.3%, making Korea an aged city and it is estimated that by 2025, Korea will be a super-aged society.
- Changwon city has not yet entered an aged society since the percentage of the elderly population was 13.3% (139,343) as of November 2019.
  - However, the aging rate of Changwon City is faster than that of any other cities of Korea and this rapid trend toward an aging society will make the city an Aged Society in the second half of 2020 and an Super-Aged Society by 2026.
  - The rapid increase in the senior population is a signal that Changwon City should pay more attention to the senior problems and respond to the Aged Society by changing the city policy to a system that can support this.
- Olf the senior population is more than 7% (Aging Society) in a society, we can easily see older people, but the situation is not perceived as a social problem. However, if it is more than 14%(Aged Society), it is said that changes will occur in social, economic, and cultural aspects.
  - Population aging poses challenges such as a decrease in tax revenues and an increase in medical and welfare costs due to a decrease in the labor force, which intensifies intergenerational conflict. Therefore, it is analyzed as a factor that weakens the competitiveness of the country or city.
- O In the world's leading countries, preparing for the challenges of population aging has already been regarded as a response to maintain the future competitiveness and treated as a very important policy area.
  - The increase in the senior population with the development of medical technology and the improvement of a living environment is a global trend. Therefore, age-friendly policies are predominantly promoted to cover the full spectrum of the city, and to influence all generations, rather than just the elderly.

- The aging policy of major countries and cities focuses on the concept of 'Aging in Community'.
  - This means that the physical and social environment should be created in an age-friendly manner so that the elderly can foster their quality of life while maintaining their activity in the community.
- O It is the time when Changwon City needs to make Age-Friendly City that enables seniors to live and age in place and their communities comfortably.
  - As preparation for the rapidly aging society, where people live until 100 years old thanks to advanced medical care, local governments need to identify policy contents according to these trends and develop countermeasures proactively.

# 2. Planning Purposes

- This research purposes to prepare a sustainable action plan to create a city environment where all generations can live happily regardless of age by making long-term and sustainable policies as preparation for the rapidly progressing trend of aging society.
- O Detailed plans can be divided into two.
- O First, to make a mid-term plan for Age-Friendly Changwon by researching Changwon City senior citizens' status and measuring age-friendliness.
  - To make mid-and long-term plans that reflect the characteristics of Changwon City, the research on senior citizen's status in the form of large-scale surveys is required.
  - Research on senior citizens' status and age-friendliness according to the characteristics of Changwon City was conducted through the review of WHO Guide: Global Age-Friendly Cities (2011) and other previous surveys.
- O Second, to seek the acquisition of GNAFFC(Global Network of Age-Friendly Cities and Communities) membership, which is being promoted by WHO and to create the framework for sustainable Age-Friendly Changwon.

# II. Context of Aging Changwon

# 1. Aging Trend of Changwon

- As of December 2019, the senior population over 65 years old of Changwon was 13.4%, less than the percentage of the senior population in Korea or Gyeongnam.
  - But, the population aged 65 and over was 13.4% of the whole citizen population of Changwon and the senior population of Changwon exceeded 7%, making the city an aging society and just before making the city an aged society, according to the UN standards.
  - Besides, Changwon population is aging much more rapidly than other areas of Gyeongnam or Korea.

Table 1. Population Ratio by Age Groups Over the Last Five Years in Changwon City

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	Category	Unit	2015	2016	2017	2018	2019
	Whole Country	thousand people	51,529	51,696	51,779	51,826	51,850
	0-14 years	thousand people	7,062	6,916	6,786	6,629	6,467
	U=14 years	%	13.7	13.4	13.1	12.8	12.5
	15-64 years	thousand people	37,693	37,784	37,636	37,547	37,356
	13 04 years	%	73.1	73.1	72.7	72.4	72.0
	Over 65 years of age	thousand people	6,775	6,996	7,356	7,650	8,027
	Over 00 years or age	%	13.1	13.5	14.2	14.8	15.5
	Gyeongnam	thousand people	3,365	3,374	3,380	3,374	3,363
	0.14 years	thousand people	483	473	466	455	443
	0-14 years	%	14.3	14.0	13.8	13.5	13.2
	1F C4	thousand people	2,418	2,421	2,410	2,396	2,372
	15-64 years	%	71.9	71.8	71.3	71.0	70.5
	Over CE veers of one	thousand people	464	480	504	523	548
	Over 65 years of age	%	13.8	14.2	14.9	15.5	16.3
	Changwon	thousand people	1,070	1,064	1,057	1,054	1,045
	0.14	thousand people	151	147	143	140	136
	0-14 years	%	14.1	13.8	13.6	13.3	13.0
	15 04	thousand people	807	800	789	782	769
	15-64 years	%	75.4	75.2	74.6	74.2	73.6
	0 05	thousand people	112	117	125	132	140
	Over 65 years of age	%	10.4	11.0	11.8	12,5	13.4
Sourc	e: KOSIS (Korean S	tatistical Informa	ation Service)	(http://kosis.kr/	'). 「Resident r	opulation by	Age -Resident

Source: KOSIS (Korean Statistical Information Service) (http://kosis.kr/), 「Resident population by Age -Resident Registration Statistics」

Note: As of December of each year

O The ratio of the pre-elderly population, aged 50 to 64, accounted for 25.7% of Changwon's total population and this rapid aging trend is expected to remain unchanged.

Table 2. Changwon Pre-Elderly Population (50-64 years)

Cate	Category		2014	2015	2016	2017	2018	2019
Changwon Pre-Elderly	50-64 years	thousand people	237	245	251	256	264	269
Population	,	%	22.1	22.8	23.4	23.8	24.5	25.7

Source: KOSIS (Korean Statistical Information Service) (http://kosis.kr/), 「Resident population by Age -Resident Registration Statistics」

Note: As of December of each year

### 1) Senior Population by District

- O When observing the percentage of senior citizens by district, the percentage of senior citizens over 65 years of age was the highest at Masanhappo-gu of 20.0%, followed by Masanhoiwon-gu of 16.1%, Jinhae-gu of 13.4%, Uichang-gu of 11.8%, and Seongsan-gu of 7.6%.
- According to the UN standard, Masanhappo-gu and Masanhoiwon-gu are classified as Aged Societies and Jinhae-gu and Uichang-gu are classified as Aging Societies and four of the five administrative districts show a great imbalance in the population structure due to population aging.
- O In particular, it is believed that various policies related to senior citizens are required in Changwon because older persons are increasing in number even though the total population is decreasing.
  - Over the past 5 years, the total population of Changwon has decreased by about 20,000, from 1.07 million to 1.04 million, but the senior population has increased by about 30,000 from 10.7 million to 14.0 million.

Table 3. Population Composition by District and Age Over the Past Five Years in Changwon

Section	Unit	2014	2016	2018	2019		Section	Unit	2014	2016	2018	2019
Changwon City	thousand people	1,075	1,064	1,054	1,045		Uichang-gu		258	252	253	259
0-14 years old	thousand people	157	147	140	136		0-14 years old	thousand people	36	32	32	32
o i i yeare era	%	14.6		o in jours ord	%	13.8	12.8	12.6	12.6			
15-64 years old	thousand people	811	800	782	769		15-64 years old	thousand people	200	195	193	195
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	%	75.4	75.2	74.2	73.6		10 01 youro ord	%	77.5	77.4	76.2	75.6
Over 65 years of	thousand people	107	117	132	140		Over 65 years of	thousand people	23	25	28	31
age	%	10.0	11.0	12.5	13.4		age	%	8.8	9.8	11.2	11.8

Section	Unit	2014	2016	2018	2019	Section	Unit	2014	2016	2018	2019
Seongsan-gu	thousand people	238	232	227	221	Masanhappo-gu	Person	182	182	181	178
0-14 years old	thousand people	37	33	31	29	0-14 years old	Person	21	21	21	20
,	%	15.7	14.4	13.4	13.1	,	%	11.8	11.5	11.4	11.2
15-64 years old	thousand people	189	185	181	175	15-64 years old	Person	132	130	126	122
,	%	79.2	79.8	79.7	79.3	,	%	72.7	71.7	69.9	68.8
Over 65 years of	thousand people	12	14	16	17	Over 65 years of	Person	28	31	34	36
age	%	5.1	5.8	6.9	7.6	age	%	15.5	16.8	18.7	20.0
Masanhoiwon-gu	thousand people	214	211	199	194	Jinhae-gu	thousand people	182	187	193	194
0.14 years old	Person	29	28	25	23	0 14 years old	Person	33	33	33	32
0-14 years old	%	13.8	13.1	12.4	11.9	0-14 years old	%	18.4	17.5	16.8	16.3
15 04	Person	161	156	145	139	15 64	Person	129	133	137	136
15-64 years old	%	74.9	74.2	72.9	71.9	15-64 years old	%	70.8	71.0	70.6	70.3
Over 65 years of	Person	24	27	29	31	Over 65 years of	Person	20	22	24	26
age	%	11.3	12.7	14.8	16.1	age	%	10.8	11.5	12.6	13.4

Source: KOSIS (Korean Statistical Information Service) (http://kosis.kr/), 「Resident population by Age -Resident Registration Statistics」 Note: As of December of each year

## 2) Percentage of Seniors by Administrative District

- O When observing the percentage of senior citizens per district, Naeseo-eup has the most number of seniors while Gapo-dong has the least number of seniors.
  - As of 2018, the number of seniors of Naeseo-eup was 7,013 (10.1%), while that of Gapo-dong was 179 (25.3%).
- O Three towns(eup and myeon) and 7 dongs are included in the top 10 administrative districts depending on the number of senior citizens.
  - Eup and Myeon: 3 administrative districts (Naeseo-eup, Bukmyon, Dong-eup)
  - Dong: 7 administrative districts (Myeonggok-dong, Uichang-dong, Odong-dong,
     Woryeong-dong, Bongnim-dong, Yangdeok 2-dong, Bansong-dong)

Table 4. Districts Ranked in Top 10 Depending on the Number of Seniors(as of 2018)

Administrative District	Total population (person)	Number of seniors (person)	Senior population ratio (%)	Administrative District	Total population (person)	Number of seniors (person)	Senior population ratio (%)
Naeseo-eup	69,097	7,013	10.1	Bukmyon	40,914	4,070	9.9
Myeonggok-dong	47,110	4,719	10.0	Bongnim-dong	32,678	3,849	11.8
Uichang-dong	35,173	4,559	13.0	Yangdeok 2-dong	33,766	3,643	10.8
Odong-dong	20,930	4,355	20.8	Dong-eup	21,675	3,532	16.3
Woryeong-dong	32,072	4,156	13.0	Bansong-dong	44,525	3,520	7.9

- O The number of administrative districts where more than 3,000 senior citizens live increased to 18 in 2018, compared to 6 in 2014.
- Administrative districts where more than 3,000 senior citizens live in 2014 : 6 districts (Naeseo-eup, Myeonggok-dong, Odong-dong, Uichang-dong, Woryeong-dong, Bongnim-dong)
- O Administrative districts where more than 3,000 senior citizens live in 2018: 13 Administrative Dongs(Naeseo-eup, Bukmyon, Dong-eup, Myeonggok-dong, Uichang-dong, Odong-dong, Woryeong-dong, Bongnim-dong, Yangdeok 2-dong, Bansong-dong, Sapa-dong, BanwolJungang-dong, Seokjeon-dong)

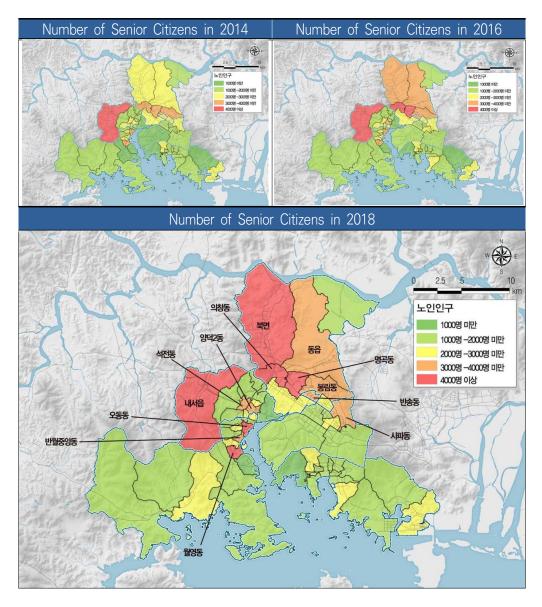


Figure 1. Number of Senior Citizens by Year and District

#### 3) Senior Population Ratio by District

- O Jinjeon-myeon has the highest senior population ratio, 40.2 % of total population. On the other hand, Seongju-dong has the least senior population ratio, 5.2%.
- O Four towns(eup and myeon) and 6 dongs were included in the top 10 administrative districts depending on senior population ratio and all 10 districts were defined as 'Super-Aged Societies' according to the UN standard<sup>1)</sup>.

<sup>1)</sup> According to United Nations, a society is defined as 5 stages according to the proportion of population aged 65 and over(a society's aging rate). A society is called "young society," if a society's aging rate is below 4%, "matured society" if between 4 % and 7%, "aging society" if below 7%, "aged society" if exceeds 7%, and "super-aged society" if over 14%.

- Eup and Myeon : 4 districts(Jinjeon-myeon, Gusan-myeon, Jinbuk-myeon, Daesan-myeon)
- Dong : 6 districts(Chungmu-dong, Taebaek-dong, Yeojwa-dong, Gapo-dong, Hoeseong-dong, Hoewon-dong)

Table 5. Districts Ranked in Top 10 Depending on Senior Population Ratio (As of 2018)

District	Total population in 2018	Number of senior population in 2018	Senior population ratio in 2018
Jinjeon-myeon	4,179	1,679	40.2%
Gusan-myeon	4,598	1,493	32.5%
Jinbuk-myeon	3,824	1,213	31.7%
Daesan-myeon	6,952	1,993	28.7%
Chungmu-dong	3,873	1,076	27.8%
Taebaek-dong	5,743	1,565	27.3%
Yeojwa-dong	9,609	2,576	26.8%
Gapo-dong	707	179	25.3%
Hoeseong-dong	7,082	1,752	24.7%
Hoewon 1-dong	11,682	2,827	24.2%

- In 2018, the number of administrative districts defined as super-aged societies increased from 8 to 16, compared to 2014 and the number of administrative districts defined as aged societies increased from 16 to 18.
  - On the other hand, the number of districts defined as aging societies decreased to 20 from 22 and the number of districts that had a relatively slow aging rate decreased to 4 from 12.
  - The reason why the number of districts that had a lower percentage of senior citizens decreased was that they became Aged or Super-Aged Society.
- The above results showed that all administrative dongs of Changwon became aged societies, excepting Sapa-dong, Gaeumjeong-dong, Sangnam-dong, and Seongju-dong in the last five years. In this regard, the rate of aging in Changwon was unprecedented in Korea.

Table 6. Aged Society Classification Depending on Senior Population Ratio(As of 2018)

Sect.	Conjugation Potio	Number o	of Districts
Sect.	Senior Population Ratio	2014	2018
Super-Aged Society	Over 20%	8	16
Aged Society	Between 14 % and 20%	16	18
Aging Society	Between 7% and 14%	22	20
Matured Society	Under 7%	12	4

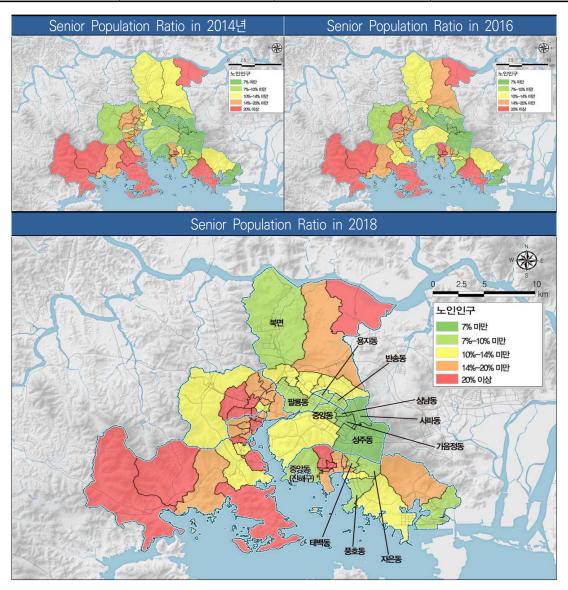


Figure 2. Change in Senior Population Ratio by Year and District

# 2. Seniors Living Alone

- The number of senior citizens who live alone in Changwon was 27,959 in 2016 and 30,662 in 2017 respectively.
- As of 2017, Masanhappo-gu had the largest number of seniors living alone(8,535), followed by Masanhoiwon-gu (7,025), Uichang-gu (6,499), Jinhae-gu (5,916), and Seongsan-gu (2,687).

Table 7. Number of Senior Citizens Who Live Alone per District (Unit: person)

Sect.	2016	2017
Changwon City	27,959	30,662
Uichang-gu	5,776	6,499
Seongsan-gu	2,428	2,687
Masanhappo-gu	8,059	8,535
Masanhoiwon-gu	6,451	7,025
Jinhae-gu	5,245	5,916

As of 2017, Naeseo-eup was ranked first in the top 10 districts and followed by Odong-dong, Uichang-dong, Dong-eup, Bongnim-dong, Myeonggok-dong, Hoewon 1-dong, Bukmyon, BanwolJungang-dong, and Seokjeon-dong depending on the number of seniors living alone.

The administrative districts where the number of seniors living alone was ranked in the top ten were generally situated in dong, not eup or myeon, and the population rate of seniors was highest in dong. This result shows that the aging problem can be more serious in an urban (dong) environment than in the rural(Eup and Myeon) community

Table 8. Districts Ranked in Top 10 Depending on the Number of Seniors Living Alone(As of 2017)

	2017 2017				17
Administrative Dong	Number of seniors living alone	Percentage of seniors	Administrative Dong	Number of seniors living alone	Percentage of seniors
Changwon City	30,662	12.5%	-	-	
Naeseo-eup	1,459	10.1%	Myeonggok-dong	948	10.0%
Odong-dong	1,280	20.8%	Hoewon 1-dong	861	24.2%
Uichang-dong	1,049	13.0%	Bukmyon	848	9.9%
Dong-eup	1,038	16.3%	BanwolJungang-dong	790	19.0%
Bongnim-dong	973	11.8%	Seokjeon-dong	755	20.9%

Note: Percentage of seniors means the ratio of senior population to total population.

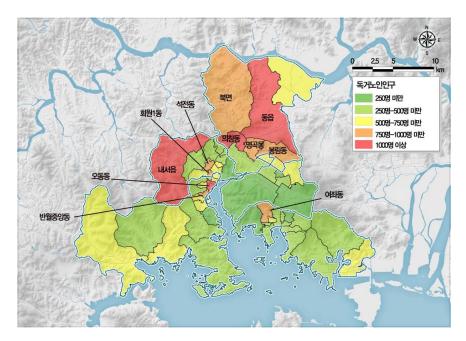


Figure 3. Distribution of Seniors Living Alone in 2017

## 3. Senior Economic Activities

- The economically active population of Changwon, Gyeongnam, and Korea by year marked as follows.
- O In Korea, the population aged 15 and older and the economically active population were continuously increasing from 2014 to 2018.
  - The labor force participation rate(economic activity rate) was increasing every year but slightly decreased in 2018.
  - The unemployment rate was between 3.5% and 3.8% and the employment rate was between 60.5% and 60.7%. The employment rate of people aged 15-65-year olds was on the rise. The employment rate was 66.6% as of 2018 and showed the largest increase in 2017.
- O In Gyeongnam, the population aged 15 and older and the economically active population were increasing, but the labor force participation rate was also increasing, which showed a difference from the national average.
  - The labor force participation rate increased gradually from 61.7% in 2014 to 63.3% in 2018.
  - The unemployment rate has increased and decreased since 2014, but it was 3.0% in 2018, lower than the national and Gyeongnam averages. The employment rate and 15-64 years old employment rate was 61.4% and 66.9%, respectively, higher than the national and Gyeongnam averages.

- On the other hand, although Changwon city's population 15 and older showed an increasing trend, it has been decreased since 2016 but increased in 2018. Economically active populations showed a continuous increase.
  - The labor force participation rate, employment rate, 15–64 years old employment rate was 62.2%, 59.7%, and 65.5%, respectively, as of 2018, which was less than the national and Gyeongnam averages. The unemployment rate was 4.0%, which was higher than the national and Gyeongnam averages.

Table 9. Economically Active Population by Year

Sect.	Unit	2014	2015	2016	2017	2018년
Korea						
Population aged 15 and over	thousand people	42,795	43,239	43,606	43,931	44,182
Economically active population	thousand people	26,836	27,153	27,418	27,748	27,895
Economically inactive population	thousand people	15,959	16,086	16,187	16,183	16,287
Activity Rate	%	62.7	62.8	62.9	63.2	63.1
Unemployment Rate	%	3.5	3.6	3.7	3.7	3.8
Employment rate	%	60.5	60.5	60.6	60.8	60.7
15-64 years old employment rate	%	65.6	65.9	66.1	66.6	66.6
Gyeongnam						
Population aged 15 and over	thousand people	2,758	2,791	2,812	2,830	2,845
Economically active population	thousand people	1,702	1,736	1,763	1,775	1,801
Economically inactive population	thousand people	1,055	1,055	1,049	1,055	1,044
Activity Rate	%	61.7	62.2	62.7	62.7	63.3
Unemployment Rate	%	2.5	2.6	3.3	2.9	3.0
Employment rate	%	60.2	60.6	60.6	60.9	61.4
15-64 years old employment rate	%	65.5	66.0	65.9	66.4	66.9
Changwon						
Population aged 15 and over	thousand people	882.6	884.4	886.1	882.5	885.2
Economically active population	thousand people	519.1	526.0	526.5	537.9	550.5
Economically inactive population	thousand people	363.5	358.4	359.6	344.6	334.7
Activity Rate	%	58.8	59.5	59.4	61.0	62.2
Unemployment Rate	%	2.3	3.1	3.7	4.3	4.0
Employment rate	%	57.4	57.6	57.2	58.3	59.7
15-64 years old employment rate	%	61.9	61.7	61.9	64.1	65.5

Source: KOSIS (http://kosis.kr/), 「Economically Active Population Survey」, Economically active population by administrative district(city and province); KOSIS (http://kosis.kr/), 「Local Area employment Survey」,

- O Detailed data on employed person and employment rate of Changwon City are as follows.
  - The total number of employed persons and the employment rate of Changwon City tended to decline in 2016 but continued to increase from 2014 to 2018.
  - The employment rate of working age(15-64-year olds) increased from 61.9% in 2014 to 65.5% in 2018.
  - On the other hand, the number of employed persons and the employment rate of older people were continuously fluctuating, increasing and decreasing widely. The increase in the employment rate of older people was smaller than that of working age(15-64-year olds).
- The above results showed that senior jobs were unstable, short-term temporary employment occurred frequently, and a definite shortage of job opportunities in Changwon City.

Table 10. Changwon City Employed Person and Employment Rate by Year

	20	2014 2015		2016		2017		2018		
By Age	Employed Person(thous and people)	Employment rate (%)	Employed Person (thousand people)	Employment rate (%)	Employed Person (thousand people)	Employment rate (%)	Employed Person(thous and people)	Employment rate (%)	Employed Person (thousand people)	Employment rate (%)
Total	506.9	57.4	509.8	57.6	507.2	57.2	514.9	58.3	528.7	59.7
15-64 years old	481.3	61.9	478	61.7	476.9	61.9	487.6	64.1	495	65.5
65 years old or over	25.6	24.3	31.8	28.9	30.3	26.2	27.4	22.3	33.7	26.0

Source: KOSIS (http://kosis.kr/), FEmployed Person and Employment Rate by Age\_I,

# 4. Public Transportation

- O Empirical researches should be conducted from on-site surveys on transportation infrastructures and services as an age-friendly city, but it is not possible or feasible to a citywide survey.
  - Hence, the survey was conducted on vulnerable areas where a low quality of public transportation services are provided and the number of transportation accidents by administrative district.

### 1) Public Transportation Vulnerable Areas<sup>2)</sup>

- O Public transportation vulnerable areas were reanalyzed based on the research result of <sup>r</sup>plan to introduce demand-responsive transportation system in Changwon City(2019, Changwon Research Institute)<sub>J</sub>.
  - There were 39 public transportation vulnerable areas in Changwon, usually in the outer suburbs of the city. There were 17 areas in Uichang-gu, 10 areas in Masanhappo-gu, 10 areas in Jinhae-gu, and 2 areas in Masanhoiwon-gu.

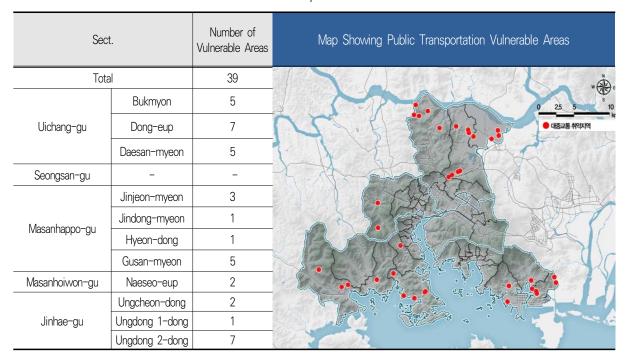


Table 11. Public Transportation Vulnerable Areas

#### 5. Traffic Accidents

O Traffic accidents while walking may be caused mainly by the negligence of pedestrians and vehicle drivers, but the accident rate and intensity of traffic accidents can be reduced by installing pedestrian crossings or transportation safety facilities. Therefore, the research on the number of pedestrian deaths and the accident rate of senior pedestrians was included in this plan.

<sup>2)</sup> Public transportation facilities were researched with the application of analysis results about public transportation vulnerable areas of Changwon City obtained from the research on the introduction method of demand-responsive transportation system(2018).

#### 1) Pedestrian Death

From 2012 to 2018, there were 227 deaths while walking in Changwon City. According to the report, 148 road fatalities(pedestrian deaths) occurred on a single road, 74 on intersections, and 5 on other areas (an obscure area or off-road).

Table 12. Number of Pedestrian Deaths by Road Type

Sect.	Total	2012	2013	2014	2015	2016	2017	2018
Total	227	39	45	20	28	31	24	40
Intersection	74	8	13	6	8	9	10	20
Single Road	148	30	32	13	19	21	14	19
Others	5	1	-	1	1	1	-	1

Source: Traffic Accident Analysis System, Changwon, Pedestrian Death, 2012-2018

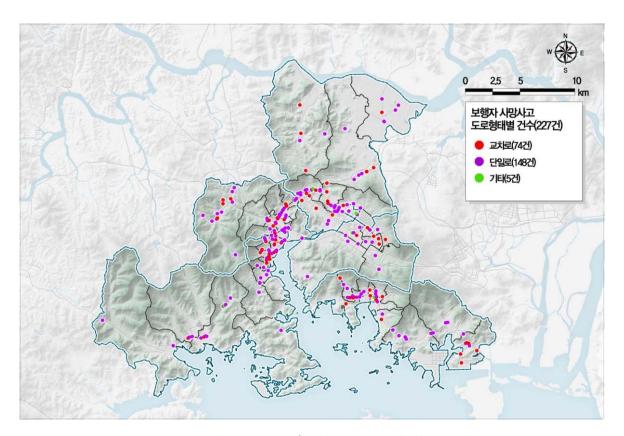


Figure 4. Distribution Map of Pedestrian Deaths by Road Type

O According to pedestrian death type, 115 accidents occurred while crossing, 31 while walking on the road, 9 while walking on side roads, and 63 others.

Table 13. Number of Traffic Accidents by Pedestrian Death Type

	Sect.	Total	2012	2013	2014	2015	2016	2017	2018
	Total	227	39	45	20	28	31	24	40
W	hile crossing	115	20	18	10	10	24	12	21
	Intersection	42	2	4	4	2	8	7	15
	Single road	71	17	14	6	7	16	5	6
	Other/Unspecified	2	1	-	-	1	-	-	-
While w	alking on the road	31	5	5	3	5	-	2	11
	Intersection	7	2	1	1	2	-	-	1
	Single road	24	3	4	2	3	-	2	10
While wa	alking on side roads	9	1	-	-	4	-	3	1
	Intersection	2	-	-	-	2	-	-	-
	Single road	7	1	-		2	-	3	1
While wal	king on the sidewalk	9	-	5	1	1	1	-	1
	Intersection	5	-	3	1	-	-	-	1
	Single road	3	-	2	-	1	-	-	-
	Other/Unspecified	1	-	-	-	-	1	-	-
	Others	63	13	17	6	8	6	7	6
	Intersection	18	4	5	-	2	1	3	3
	Single road	43	9	12	5	6	5	4	2
	Other/Unspecified	2	-	-	1	-	-	-	1

Source: Traffic Accident Analysis System, Changwon, Pedestrian Death, 2012-2018

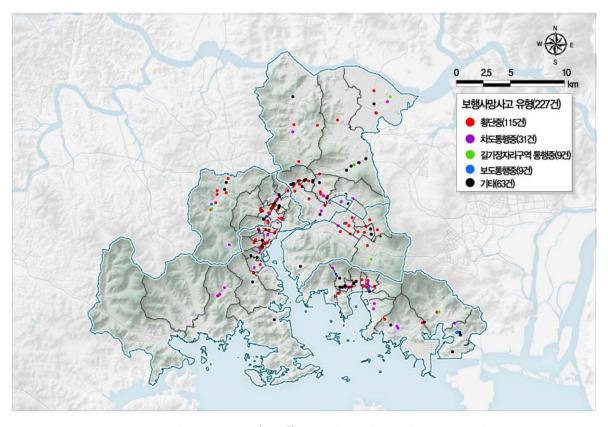


Figure 5. Distribution Map of Traffic Accidents by Pedestrian Death Type

- O Based on the pedestrian death spot as above mentioned, ArcGis Point Density Analysis was conducted to determine the spot where road fatalities often took place.
  - For this analysis, the standard for calculating density was set per 2.5 km radius.
- The analysis report showed that the pedestrian death density of Changwon City was very low in eup and myeon. The pedestrian death density was high in Happo-dong, Sanho-dong, Hoewon 1-dong, Nosan-dong, Yangdeok 1-dong, and Odong-dong.
- The pedestrian death density of Masan area was higher than that of Changwon area.

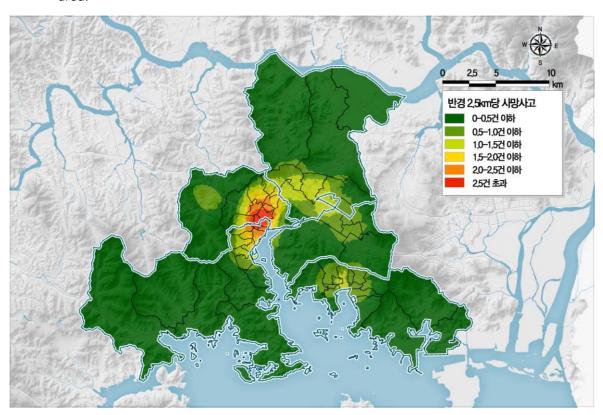


Figure 6. Density Analysis Result of Pedestrian Deaths

#### 2) Accidents of Senior Pedestrians

- A total of 575 traffic accidents involving senior pedestrians occurred from 2016 to 2018 and 192 accidents occurred in 2016, 181 occurred in 2017 and 202 occurred in 2018. Traffic accidents involving senior pedestrians were gradually increased.
- O According to categories of the accident, 43 fatal accidents, 355 serious injuries,

- 166 minor injuries, and 11 injuries occurred and the number of serious injuries and fatalities was increased every year.
- O In particular, among pedestrian deaths, pedestrian death of seniors accounted for 57.5% of all pedestrian deaths.

Table 14. Number of Traffic Accidents Involving Senior Pedestrians by Category

Sect.	Total	2016	2017	2018
Total	575	192	181	202
Fatal Accidents	43	9	11	23
Serious Injuries	355	121	110	124
Minor Injuries	166	57	56	53
Injuries	11	5	4	2

Source: Traffic Accident Analysis System, Changwon, Traffic Accidents Involving Senior Pedestrians, 2012-2018

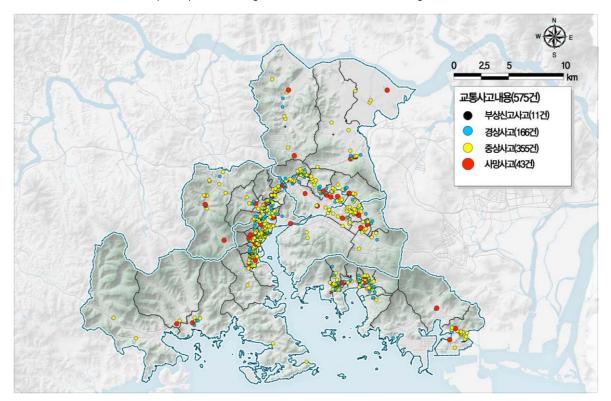


Figure 7. Distribution Map of Senior Pedestrian Death in Traffic Accident

- According to the type of the accident, 284 accidents occurred while crossing, 123 occurred at railroad crossings, 99 occurred while walking on the road, 50 occurred while walking on side roads, and 19 occurred while walking on the sidewalk.
- Also, for the suburb of a city, a lot of traffic accidents occurred in towns such as Jindong-myeon, Naeseo-eup, and Dong-eup.

Table 15. Number of Traffic Accidents Involving Senior Pedestrians by Type

Sect.	Total	2016	2017	2018
Total	575	192	181	202
While crossing	284	104	85	95
While walking on the road	99	33	27	39
While walking on side roads	50	11	25	14
While walking on the sidewalk	19	4	8	7
Railroad crossing	123	40	36	47

Source: Traffic Accident Analysis System, Changwon, Traffic Accidents Involving Senior Pedestrians, 2012-2018

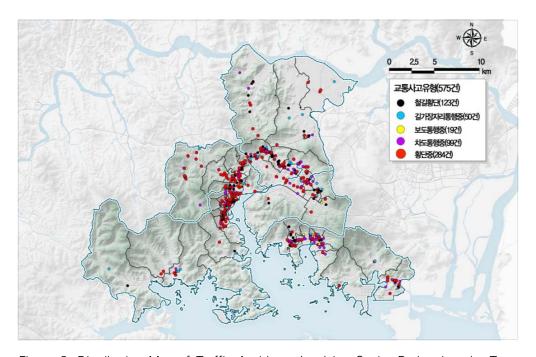


Figure 8. Distribution Map of Traffic Accidents Involving Senior Pedestrians by Type

- O The analysis showed that the density of traffic accidents involving senior pedestrians was similar to that of fatal accidents in the category, but the scope of traffic accidents tended to be wider.
- O Masan area has the highest density of traffic accidents, followed by Jinhae and Changwon.

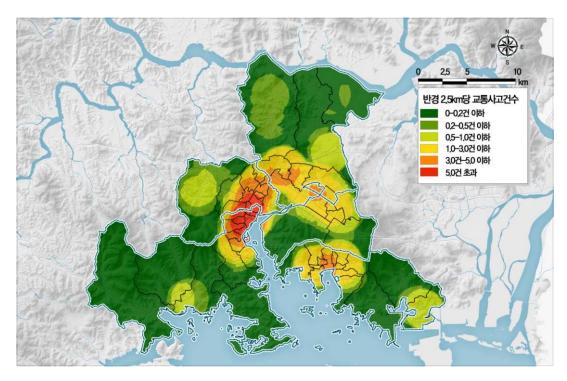


Figure 9. Density Analysis Result of Traffic Accidents Involving Senior Pedestrians

## 6. Social Welfare & Cultural Facilities

#### 1) Welfare Facilities for Senior Citizens

- There are 88 welfare facilities for senior citizens in Changwon City; 38 senior healthcare and 50 adult day care facilities.
- O The number of senior citizens per facility is 3,474 at senior medical facilities and 2,640 at adult day care centers.

Table 16. Changwon Welfare Facilities for Senior Citizens

Senior Healthcare(Number of Facilities)			Senior Day Care(Number of Facilities)			
Number of senior citizens per facility	Senior healthcare center		Number of senior citizens per facility	,	Nursing home	In-come care facilities for the elderly
3,474	24	14	2,640	6	3	41

Source: Changwon City, internal data

O Welfare facilities for senior citizens such as healthcare facilities, public health centers, senior community clubs, nursing homes, and in-home care facilities are not evenly distributed all over the city. Most facilities are distributed around existing urban areas.

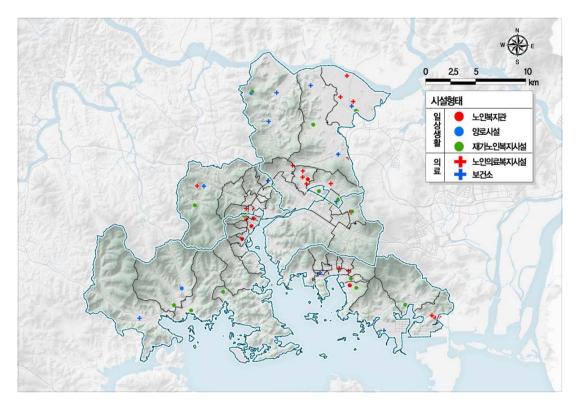


Figure 10. Distribution Map of Welfare Facilities for Senior Citizens

## 2) Civic Participation Facilities

- The major facilities for encouraging civic participation represent organizations or institutions including senior organizations or senior employment & social activities support centers.
- O There are three senior organizations and five senior social activity support centers in Changwon.

Table 17. Changwon City Civic Participation Facilities

Sect.	Number of Places	Distribution Map of Civic Participation Facilities
Total	8	0 25 5 10 • 노인단체 • 노인단체 • 노인됐지만 수행기만
Senior organizations	3	
Senior employment and social activity support institutions	5	

No.	Sect.	Facility Name	Location	
1		Jinhae senior club	7, Jungwon-ro 74beon-gil, Jinhae-gu, Changwon-si, Gyeongsangnam-do	
2	Senior employment and social activity support institutions	Masan support center to help seniors find jobs	(Kumkang Senior Welfare Center) Munhwabuk 4-gil, Pyeonghwa-dong, Masanhappo-gu, Changwon-si, Gyeongsangnam-do.	
3		Masan senior club	1st floor(Pyeonghwa-dong) 15, C, Munhwabuk 4-gil, Masanhappo-gu, Changwon-si, Gyeongsangnam-do.	
4		Changwon support center to help seniors find jobs	1403, Haiper's Building, 96, yonggi-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do.	
5		Changwon senior club	4-1, 2nd floor, Uian-ro 50beon-gil Uichang-gu, Changwon-si Gyeongsangnam-do	
6		The Korean Senior Citizens Association (Jinhae branch office, Changwon)	343, Chungjang-ro, Jinhae-gu, Changwon-si, Gyeongsangnam-do (Gyeonghwa-dong 47)	
7	Senior Organizations	The Korean Senior Citizens Association (Masan branch office, Changwon)	5, Dongseodongnam 1-gil, 6-gil, Masanhappo-gu, (Masan senior welfare center)	
8		The Korean Senior Citizens Association (Changwon branch office, Changwon)	15 Seogok-gil Uichang-gu, Changwon-si Gyeongsangnam-do (Uichang senior welfare center)	

Source : Changwon City, internal data

# 7. Senior Community and Information Facilities

### 1) Senior Community Clubs

○ There are a total of 998 senior community clubs in Changwon; 294 in Masanhappo-gu, 252 in Uichang-gu, 184 in Jinhae-gu, 173 in Masanhoiwon-gu and 95 in Sungseong-gu.

Table 18. The Number and Distribution of Senior Community Clubs by District

Sect.	Number of Places	Uichang-gu	Seongsan-gu	Masanhappo-gu	Masanhoiwon-gu	Jinhae-gu
Total	998	252	95	294	173	184

Source: Changwon City, internal data

O Due to the characteristics of senior community clubs, they are located very close to senior citizen residence. The analysis shows that the most senior community clubs exist in Masanhappo-gu and Masanhoiwon-gu urban areas. In the suburbs, they exist mostly in Jindong-myeon, Naeseo-eup, and Dong-eup, the seat of a township office.

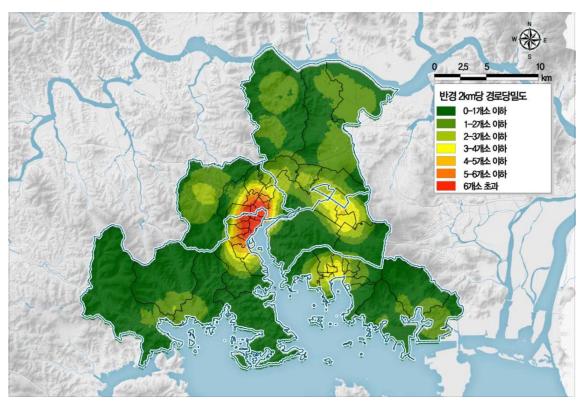


Figure 11. Density Analysis Result According to Location of Senior Community Clubs

## 2) Senior School & Senior College

- O There are a total of 54 senior community and information facilities in Changwon with 27 senior schools and collages, respectively.
- O Masanhappo-gu has the most community and information facilities, Masanhoiwon-gu and Jinhae-gu have 7 each, and Uichang-gu and Seongsan-gu have 8 each.
- O In terms of location, they are distributed evenly by district(gu) and mostly concentrated in the existing urban areas.

Table 19. Senior School & Senior College Status

Sect.	Total	Senior School	Senior College
Total	54	27	27
Uichang-gu	8	4	4
Seongsan-gu	8	4	4
Masanhappo-gu	14	7	7
Masanhoiwon-gu	12	6	6
Jinhae-gu	12	6	6

Source: Changwon City, internal data

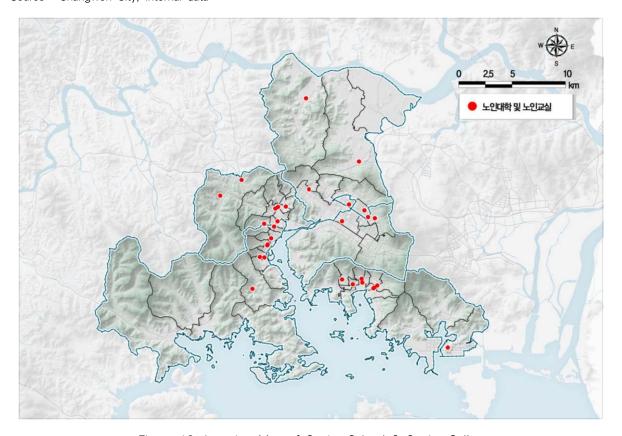


Figure 12. Location Map of Senior School & Senior College

# 8. Changwon City's Conditions and Implications From the Perspective of Age-Friendly City

#### 1) Composition of Population

- Changwon City has a lower population ratio of senior citizens compared to the national and Gyeongnam average but all administrative districts excluding Seongsan-gu have a higher proportion of senior populations. The transition from Aging Society to Aged Society⇒Super-Aged Society continues to accelerate in all administrative districts excluding Sapa-dong, Gaeumjeong-dong, Sangnam-dong, and Seongju-dong.
- This is due to the rapid increase in the senior population. On the other hand, the total population of Changwon has decreased slightly over the past five years, which means that Changwon's entrance into the Super-Aged Society is accelerating.
- O This trend is a serious problem not only in eup and myeon but also in dong areas. Furthermore, the number of seniors living alone in dong areas is also increasing, which may cause various problems due to aging in the future.
- O Therefore, it is necessary to take physical and administrative countermeasures to respond to the rapid transition to the Aged Society and to ensure diverse activities of seniors.

#### 2) Senior Economic Activities

- O The total number of employed persons and the employment rate in Changwon City continued to increase from 2014 to 2018. On the other hand, the number of employed persons and the employment rate of older people were continuously fluctuating, increasing and decreasing widely. The increase in the employment rate of older people was smaller than that of working age(15–64 years olds).
- O Senior jobs were unstable and short-term temporary employment occurred frequently.
- O It is necessary to create an environment where seniors can continue to work.

#### 3) Transportation

- O Since 39 public transportation vulnerable areas are located in the eup and myeon areas, it is necessary to expand bus routes and shorten the interval between buses.
- As fatal traffic accidents and traffic accidents involving senior pedestrians frequently occur in the old town of Masan, it is necessary to install safety facilities and reduce traffic speed.

#### 4) Social Welfare and Culture

- Excluding senior community clubs, the major welfare facilities, senior organizations, employment and social support programs, senior schools and senior colleges are not evenly distributed in each community. Most of them are distributed around existing urban areas.
- On the other hand, senior community clubs are located very close to senior citizen residence. The analysis shows that the most senior community clubs exist in Masanhappo-gu and Masanhoiwon-gu urban areas. In the suburbs, they exist mostly in Jindong-myeon, Naeseo-eup, and Dong-eup, the seat of a township office.
- O Therefore, it is recommended to improve utilization efficiency and accessibility of welfare facilities for senior citizens, civic participation facilities, senior community and information facilities in terms of social welfare and culture.

Table 20. Changwon City's Conditions and Implications From the Perspective of Age-Friendly City

Sect.	Condition and Status	Implications
Composition of Population	<ul> <li>The proportion of senior populations is high in all administrative districts.</li> <li>Accelerated transitions from Aging Society to Aged Society⇒Super-Aged Society</li> <li>The number of seniors living alone in dong areas is also increasing, which may cause various problems due to aging in the future.</li> </ul>	<ul> <li>Make efforts to reduce gaps between administrative districts by identifying causes.</li> <li>Take physical and administrative countermeasures to ensure the diverse activities of seniors.</li> </ul>
Senior Economic Activities	<ul><li>Unstable senior employment and temporary employment</li><li>Lack of job opportunities for seniors</li></ul>	Create job opportunities and expand education for the independence of seniors
Public Transportation	<ul> <li>Eup and myeon areas identified as public transportation vulnerable areas</li> <li>Frequent traffic accidents involving seniors around Masan</li> </ul>	<ul> <li>Expand bus routes and shorten the interval between buses.</li> <li>Install safety facilities and establish policies on speed reduction</li> </ul>
Social welfare and Culture	Difficult to be distributed evenly by district. Most of welfare facilities are located in existing urban areas.	Expand and improve utilization efficiency and accessibility of welfare facilities

# III. Empirical Analysis for Age-Friendly Changwon Environment

# 1. Empirical Analysis Method

- O This chapter is intended to search vulnerable areas in which senior citizens face challenges in their daily lives and accessibility of local services and facilities based on city data of Chapter 2 and propose the improvements for each community through needs analysis survey of citizens.
- Therefore, the empirical analysis consists of three phases: ① Analysis of physical vulnerability, ② Importance-performance analysis based on survey results, and ③ Empirical analysis summary and improvements.

# 2. Analysis of Physical Vulnerability

## 1) Selection of Analysis Index and Method

#### 1) Selection of Analysis Index

- WHO presented 3 categories and 8 focus areas as checklists to create Age-Friendly City.
- 3 categories include a physical environment, social · cultural · economic environment, and information society · community healthcare and these are subdivided into outdoor spaces and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, and community support and health service.

Table 21. 3 Categories and 8 Focus Areas to Create Age-Friendly City

3 Categories	8 Focus Areas	Reason		
Physical	Outdoor spaces and buildings	The outside environment and public buildings have a major impact on the mobility, independence and quality of life of older people and affect their ability to "age in place."		
environment	Transportation	A key factor influencing active aging		
	Housing	Housing is essential to safety and well-being.		
	Social participation	Social participation and social support are strongly connected to good health and well-being throughout life		
Social • cultural • economic environment	Respect and social inclusion	Older people report experiencing conflicting types of behaviour and attitudes towards them.		
6.11.16.11.	Civic participation and employment	Older people do not stop contributing to their communities on retirement		
Information	Communication and information	Continuous • a variety of information is needed for communication.		
Society • Community Health	Community support and health service	Health and support services are vital to maintaining health and independence in the community		

Source: WHO, 2007, Global Age-Friendly Cities: A Guide, WHO

O A total of 10 indices were finally drawn out by the above criteria and the higher the index value, the lower the age-friendliness.

Table 22. Selected Index and Characteristics of Index Value

Field	Index	Characteristics	
	Aging Index(senior population/the population under the age of 14)		
Composition of Population	Sustenance support for seniors(senior population/working age population)	The higher the index value, the lower the age-friendliness	
	Number of seniors living alone		
Pedestrian safety and public transportation service	Number of traffic accidents involving senior pedestrians		
Service (Accidents while walking)	Number of pedestrian death accidents		
Social welfare and	Average distance to the nearest senior healthcare facility		
health	Average distance to the nearest senior day care center		
Civic participation and employment	Average distance to the nearest civic group, Employment arrangement facility		
Community and	Average distance to the nearest senior welfare center		
information	Average distance to the nearest education facility for seniors.		

## ② Analysis Method

- The analysis of data leads to the final result of physical vulnerability through the following three steps.
  - First of all, the population-related index and the pedestrian safety index are extracted from the survey data by dong. Then the pedestrian safety index is extracted by dividing accident spots by dong to collect statistics numerically. The indices of social welfare and health, civic participation and employment, community and information are extracted and charted by averaging the distance between the land used in which housing predominates and each facility by dong.
  - The reason why the proximity is measured and applied is there is no point in extracting the senior population per each administrative district, since the facilities related to the senior welfare are not equally distributed by administrative dong and the closer the access distance, the higher the utilization rate.
  - Data collected from the survey is standardized using spss to make a fair comparison between each data.
  - This process is required because there are many cases where data comparison is not practicable for indices measured in different units.
     Therefore, it is possible to make a comprehensive judgement by indexing data to the common index for comparative analysis.
  - Finally, the average of the processed indices was calculated to map physically vulnerable areas among the administrative districts of Changwon as an aged-friendly city.

## 3. Characteristic Analysis by Index

#### 1) Composition of Population

#### (1) Construction of Data

- The index for population composition consisted of the aging index and sustenance support for seniors which represent issues on the proportion of the senior population.
  - In general, a high aging index means that the senior population to be supported is relatively larger than the working age population. The sustenance support for seniors

indicates the ratio of the elderly to the working age population. This is an indicator of how many older people should be economically supported by working age population aged 15 - 64.

O The aging index and sustenance support for seniors were calculated and charted by the formula for each administrative dong based on the survey data.

## ② Aging Index

- The aging index of Changwon increased sharply from 68.2 in 2014 to 94.3 in 2018 because the population of Changwon has continuously increased since 2014.
- The aging index represents the ratio of the population aged 65 or over to the population aged 14 or younger. If the aging index exceeds 100, it means that the senior population is larger than the population of future generations. As a result, this means that the population structure will transit into an aging society. As of the end of 2018, the aging index of Changwon City exceeded 90 and exceeded 100 in Masanhoiwon-gu and Masanhappo-gu, which shows a serious population aging.

Table 23. Changwon City Aging Index by Year and District

Sect.	2014	2016	2018
Changwon City	68.2	79.6	94.3
Seongsan-gu	32.4	42.4	51.6
Uichang-gu	63.9	78.1	87.5
Masanhoiwon-gu	82.8	96.4	116.0
Masanhappo-gu	133.3	147.6	161.9
Jinhae-gu	60.6	66.7	72.7

- O Nearly half of the administrative dongs have the aging index above 100. In Masan and Jinhae areas, most administrative dongs in urban areas have the aging index above 100
- According to the analysis, Jinjeon-myeon showed the highest aging index, 1,030.1 and Seongju-dong showed the lowest aging index, 36.2.

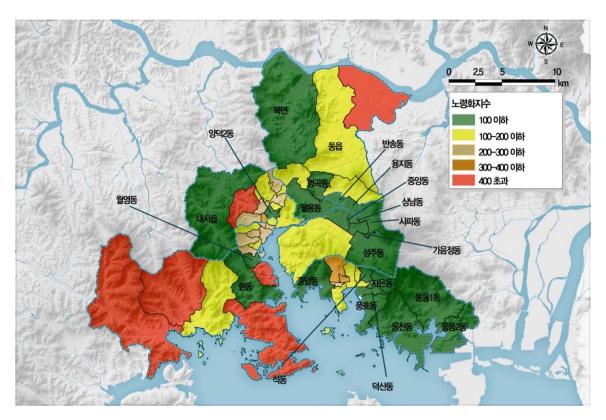


Figure 13. Changwon City Aging Index by Administrative Dong

Table 24. Aging Index by Administrative Dong

Gu	Administrative District	Aging Index	Gu	Administrative District	Aging Index
	Dong-eup	136.4		Naeseo-eup	65.8
	Bukmyon	48.6		Hoewon 1-dong	325.7
	Daesan-myeon	476.8			
1.6.1	Uichang-dong	126.9		Hoewon 2-dong	240.5
Uichang-gu	Paryong-dong	58.0		Seokjeon-dong	223.5
	Myeonggok-dong	90.9		Hoeseong-dong	419.1
	Bongnim-dong	124.2	Masan hoiwon-gu	Yangdeok 1-dong	167.4
	Yongji-dong	73.0		Vanadaali 2 dana	67.1
	Bansong-dong	55.8	Tioivvoir ga	Yangdeok 2-dong	67.1
	Jungang-dong	83.8		Hapseong 1-dong	165.8
	Sangnam-dong	43.3		Hapseong 2-dong	264.5
Seongsan-gu	Sapa-dong	48.3		Guam 1-dong	203.1
	Gaeumjeong-dong	44.5		_	
	Seongju-dong	36.2		Guam 2-dong	146.2
	Ungnam-dong	104.2		Bongam-dong	187.0

## Aging Index by Administrative Dong (Continued)

Gu	Administrative District	Aging Index	Gu	Administrative District	Aging Index
	Gusan-myeon	688.0		Jungang-dong	38.2
	Jindong-myeon	117.4		Taepyeong-dong	163.3
	Jinbuk-myeon	655.7		Chungmu-dong	298.1
	Jinjeon-myeon	1,030.1		Yeojwa-dong	302.0
	Hyeon-dong	53.1		Taebaek-dong	370.9
	Gapo-dong	426.2	Jinhae-gu	Gyeonghwa-dong	106.3
	Woryeong-dong	94.9		Byeongam-dong	124.9
Masan	Munhwa-dong	246.5		Seok-dong	48.9
happo-gu	BanvaJungang-dang	157.5		I-dong	194.8
	Wanwol-dong	221.2		Jaeun-dong	52.9
	Jasan-dong	207.3		Deoksan-dong	70.4
	Gyobang-dong	124.8		Pungho-dong	39.8
	Nosan-dong	230.0		Ungcheon-dong	78.7
	Odong-dong	220.5		Ungdong1-dong	96.8
	Happo-dong	252.6		Ungdong2-dong	38.5
	Sanho-dong	170.7	Average		94.3

## ③ Sustenance Support for Seniors

- The sustenance support for seniors is an indicator of the number of people aged 65 or older who will be supported for every 100 people in the working age population(15 64). It is called an indicator that includes the problem of the aged and economic situation.
- The sustenance support for seniors in Changwon City showed that the number of people aged 65 or older who will be supported for every 100 people in the working age population(15 - 64) was 13.2 in 2014 and increased to 16.9 in 2018.
- O For Seongsan-gu and Uichang-gu, the sustenance support for seniors was less than the citywide average. On the other hand, Masanhappo-gu, Masanhoiwon-gu, and Jinhae-gu showed the sustenance support for seniors higher than the citywide average.

Table 25. Changwon City Sustenance Support for Seniors by Year and District

Sect.	2014	2016	2018
Changwon City	13.2	14.6	16.9
Seongsan-gu	6.3	7.6	8.8
Uichang-gu	11.5	12.8	14.5
Masanhoiwon-gu	14.9	17.3	20.0
Masanhappo-gu	21.2	23.8	27.0
Jinhae-gu	15.5	16.5	17.5

O For sustenance support for seniors by administrative dong, it was ranked high in order of Jinjeon-myeon, Gusan-myeon, Jinbuk-myeon, Chungmu-dong, Daesan-myeon, Yeojwa-dong, Taebaek-dong, Gapo-dong, Hoeseong-dong, Hoewon-dong, Nosan-dong, Happo-dong, and Hoewon 2-dong. Masan area had higher sustenance support for seniors than other areas.

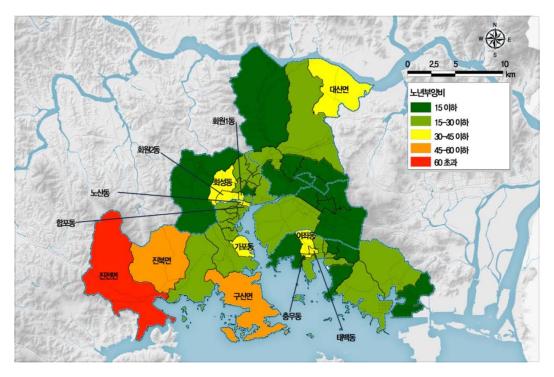


Figure 14. Changwon City Sustenance Support for Seniors by Administrative Dong

Table 26. Changwon City Sustenance Support for Seniors by Administrative Dong

Gu	Administrative District	Sustenance Support for Seniors	Gu	Administrative District	Sustenance Support for Seniors
	Dong-eup	22.7		Naeseo-eup	13.6
	Bukmyon	14.3		Hoewon 1-dong	35.4
	Daesan-myeon	43.9			
1.6.1	Uichang-dong	16.9		Hoewon 2-dong	30.7
Uichang-gu	Paryong-dong	9.8		Seokjeon-dong	30.0
	Myeonggok-dong	12.7		Hoeseong-dong	35.7
	Bongnim-dong	15.0	Masan hoiwon-gu	Yangdeok 1-dong	23.2
	Yongji-dong	11.0		Yangdeok 2-dong	14.8
	Bansong-dong	10.1	l	rangueok z-uong	14.0
	Jungang-dong	9.1		Hapseong 1-dong	22.6
	Sangnam-dong	7.4		Hapseong 2-dong	26.0
Seongsan-gu	Sapa-dong	8.5		Guam 1-dong	24.6
	Gaeumjeong-dong	7.8			
	Seongju-dong	6.4		Guam 2-dong	21.0
	Ungnam-dong	17.2		Bongam-dong	22.5

Changwon City Sustenance Support for Seniors by Administrative Dong(Continued)

Gu	Administrative District	Sustenance Support for Seniors	Gu	Administrative District	Sustenance Support for Seniors
	Gusan-myeon	51.7		Jungang-dong	11.6
	Jindong-myeon	24.9		Taepyeong-dong	28.0
	Jinbuk-myeon	50.0		Chungmu-dong	44.2
	Jinjeon-myeon	71.8		Yeojwa-dong	41.7
	Hyeon-dong	15.7		Taebaek-dong	41.7
	Gapo-dong	36.8	Jinhae-gu	Gyeonghwa-dong	21.7
	Woryeong-dong	17.7		Byeongam-dong	24.5
Masan	Munhwa-dong	29.1		Seok-dong	11.8
happo-gu	BanwolJungang-dong	27.5		I-dong	24.5
	Wanwol-dong	26.8		Jaeun-dong	13.2
	Jasan-dong	28.0		Deoksan-dong	18.6
	Gyobang-dong	24.0		Pungho-dong	12.4
	Nosan-dong	34.6		Ungcheon-dong	18.5
	Odong-dong	29.8		Ungdong 1-dong	22.5
	Happo-dong	31.2		Ungdong 2-dong	10.3
	Sanho-dong	24.4	A	/erage	94.3

### 2) Pedestrian Safety and Public Transportation Service(Accidents While Walking)

#### (1) Construction of Data

- The data on traffic accidents while walking was indexed using the statistical data of traffic accident analysis system(http://taas.koroad.or.kr).
- O First, the transportation statistics and accident spot data were acquired from the traffic accident analysis system and the data for each spot was gathered and charted.
- O The data were summarized in Chapter 2 and attribute values of data included the location of accident spot, the category of accidents by spot, and time of occurrence, etc.
- The above data were extracted and charted by the number of accidents by administrative dong using ArcGis.
- O In the final data, the number of accidents by administrative dong was visualized from 2016 to 2018 to make data for senior accidents. For the fatal traffic accident vulnerable areas, the number of fatal accident spots was extracted by administrative dong to make data including all citizens as well as seniors from 2012 to 2018.

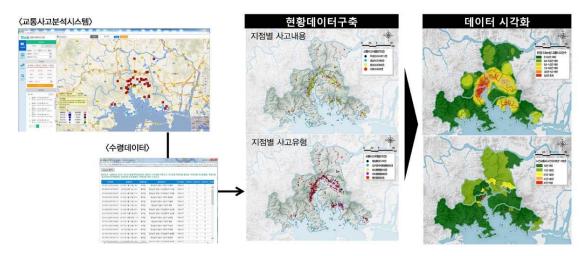


Figure 15. A Process of Extracting Data Index related to Traffic Accident

## ② The Number of Senior Pedestrians Involved in Traffic Accidents by Administrative Dong

- The number of pedestrian traffic accidents in Changwon was 2,285 in the last three years, of which 575 involved senior citizens and accounted for 25% of all traffic accidents.
- O The number of people involved in one pedestrian traffic accident was one(1) out of 1,389 based on the total population of Changwon. On the other hand, the number of senior citizens involved in one pedestrian traffic accident was one out of 650. According to the analysis, the higher incidence of traffic accidents involving senior citizens(twice as high) existed and safety measures should be taken to protect senior citizens from traffic accidents.

Table 27. Number of Seniors Involved in Traffic Accidents While Walking

Sect.		Total	2016	2017	2018년
	Number of traffic accidents occurred (number)	575	192	181	202
Senior Citizens	The number of people involved(person)	373,696	117,208	124,875	131,613
Ortizonio _	the number of people involved in one traffic accident(person/number)	650	610	690	652
Changwon City	Number of traffic accidents occurred (number)	2,285	804	716	765
	The number of people involved(person)	3,174,540	1,063,907	1,057,032	1,053,601
	the number of people involved in one traffic accident(person/number)	1,389	1,323	1,476	1,377

Note: The number of people involved per traffic accident is the average for the last three years.

- O There were a total of 19 administrative dongs, in which the number of senior citizens involved in one pedestrian traffic accident was below the average (650 persons/number) and of which 16 administrative dongs showed the frequency of occurrence more than 10 times.
- O In particular, Odong-dong, Uichang-dong, Bongnim-dong, Munhwa-dong, and Seokjeon-dong were found as senior traffic accident black spots and the number of senior citizens involved in one pedestrian traffic accident was small. The analysis reveals that senior traffic accidents are very serious problems in these areas.

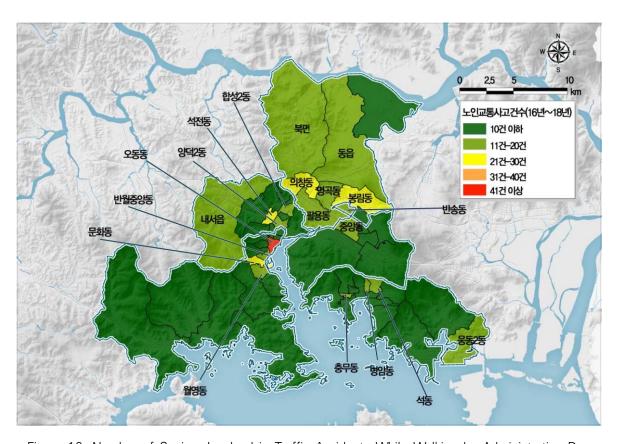


Figure 16. Number of Seniors Involved in Traffic Accidents While Walking by Administrative Dong

Table 28. Number of Traffic Accidents Involving Senior Pedestrians by Administrative Dong

Gu	Administrative District	Number of Pedestrian Traffic Accidents (2016-2018)	Annual average number of accidents	Number of senior citizens in 2018	Number of senior citizens involved in one accident
Uichang-gu	Dong-eup Bukmyon Daesan-myeon Uichang-dong Paryong-dong Myeonggok-dong Bongnim-dong Yongji-dong	18 12 3 30 15 18 23	6.0 4.0 1.0 10.0 5.0 6.0 7.7 3.0	3,532 4,070 1,993 4,559 2,772 4,719 3,849 2,833	589 1,018 1,993 456 554 787 502 944
Seongsan-gu	Bansong-dong Jungang-dong Sangnam-dong Sapa-dong Gaeumjeong-dong Seongju-dong Ungnam-dong	11 15 7 5 10 5 2	3.7 <b>5.0</b> 2.3 1.7 3.3 1.7 0.7	3,520 1,826 1,781 3,330 2,706 1,413 1,111	960 <b>365</b> 763 1,998 812 848 1,667
Masan happo-gu	Gusan-myeon Jindong-myeon Jindong-myeon Jinjeon-myeon Hyeon-dong Gapo-dong Woryeong-dong Munhwa-dong BanwolJungang-dong Wanwol-dong Jasan-dong Gyobang-dong Nosan-dong Odong-dong Happo-dong Sanho-dong	2 9 2 2 4 1 1 20 21 16 10 9 5 7 50 5	0.7 3.0 0.7 0.7 1.3 0.3 6.7 7.0 5.3 3.0 1.7 2.3 16.7 1.7	1,493 2,232 1,213 1,679 1,478 179 4,156 2,519 3,083 1,962 2,369 1,515 1,516 4,355 1,652 2,399	2,240 744 1,820 2,519 1,109 537 623 360 578 589 790 909 650 261 991 1,799
Masan hoiwon-gu	Naeseo-eup Hoewon 1-dong Hoewon 2-dong Seokjeon-dong Hoeseong-dong Yangdeok 1-dong Yangdeok 2-dong Hapseong 1-dong Hapseong 2-dong Guam 1-dong Guam 2-dong Bongam-dong	17 9 8 <b>21</b> 6 7 11 4 <b>15</b> 9 6	5.7 3.0 2.7 <b>7.0</b> 2.0 2.3 3.7 1.3 <b>5.0</b> 3.0 2.0	7,013 2,827 1,799 3,015 1,752 2,071 3,643 1,610 1,653 1,820 1,621 647	1,238 942 675 <b>431</b> 876 888 994 1,208 <b>331</b> <b>607</b> 811
Jinhae-gu	Jungang-dong Taepyeong-dong Chungmu-dong Yeojwa-dong Taebaek-dong Gyeonghwa-dong Byeongam-dong I-dong Jaeun-dong Deoksan-dong Pungho-dong Ungcheon-dong Ungdong 1-dong Ungdong 2-dong	3 8 15 6 4 2 11 17 5 9 5 3 1 2	1.0 2.7 5.0 2.0 1.3 0.7 3.7 5.7 1.7 3.0 1.7 1.0 0.3 0.7	688 1,212 1,076 2,576 1,565 1,751 1,358 1,556 1,675 1,971 1,380 2,298 1,347 1,058 2,817	688 455 215 1,288 1,174 2,627 370 275 1,005 657 828 2,298 4,041 1,587

## ③ Number of Pedestrian Deaths by Administrative Dong

- O The areas where the risk of pedestrian fatalities was high were selected by sorting the data on the spot where fatal accidents occurred in Changwon City by administrative dong from 2012 to 2018.
- O Naeseo-eup had the most number of pedestrian deaths and 14 fatal accidents occurred from 2012 to 2018. According to the survey, 11 pedestrian death occurred in Seokjeon-dong, 10 in Uichang-dong, and 9 in Dong-eup.

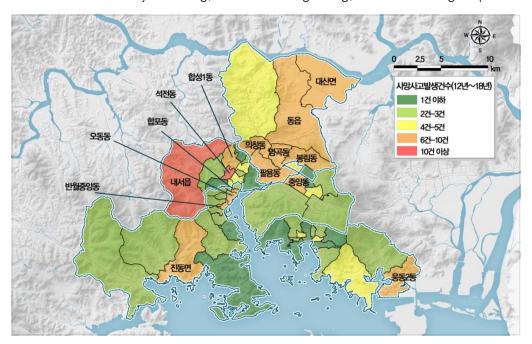


Figure 17. Number of Pedestrian Deaths Occurred by Administrative Dong

Table 29. Number of Pedestrian Deaths Occurred by Administrative Dong(2012-2018)

Gu	Administrative District	Number of Pedestrian Deaths Occurred	Gu	Administrative District	Number of Pedestrian Deaths Occurred
	Dong-eup	9		Naeseo-eup	14
	Bukmyon	5		Hoewon 1-dong	4
	Daesan-myeon	6			4
Uichang-gu	Uichang-dong	10		Hoewon 2-dong	T
	Paryong-dong	8		Seokjeon-dong	11
	Myeonggok-dong	8	Masan hoiwon-gu	Hoeseong-dong	3
	Bongnim-dong	7		Yangdeok 1-dong	2
	Yongji-dong	1			
	Bansong-dong	4		Yangdeok 2-dong	5
	Jungang-dong	6		Hapseong 1-dong	8
Seongsan-gu	Sangnam-dong	1		Hapseong 2-dong	5
Seorigsair gu	Sapa-dong	3		Guam 1-dong	0
	Gaeumjeong-dong	5			
	Seongju-dong	2		Guam 2-dong	2
	Ungnam-dong	2		Bongam-dong	1

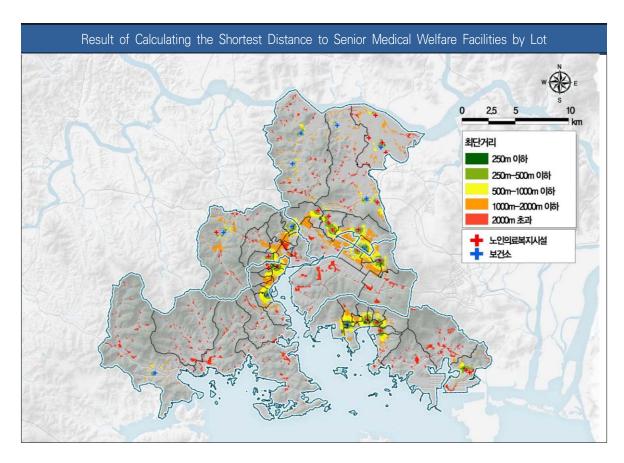
Number of Pedestrian Deaths Occurred by Administrative Dong(2012-2018, Continued)

Gu	Administrative District	Number of Pedestrian Deaths Occurred	Gu	Administrative District	Number of Pedestrian Deaths Occurred
	Gusan-myeon	1		Jungang-dong	0
	Jindong-myeon	8		Taepyeong-dong	1
	Jinbuk-myeon	3		Chungmu-dong	3
	Jinjeon-myeon	2		Yeojwa-dong	3
	Hyeon-dong	3		Taebaek-dong	5
	Gapo-dong	0		Gyeonghwa-dong	1
	Woryeong-dong	ng-dong 3		Byeongam-dong	2
Masan	Munhwa-dong	2	Jinhae-gu	Seok-dong	2
happo-gu	BanwolJungang-dong	8		I-dong	4
	Wanwol-dong	2		Jaeun-dong	1
	Jasan-dong	2		Deoksan-dong	0
	Gyobang-dong	3		Pungho-dong	2
	Nosan-dong	3		Ungcheon-dong	5
	Odong-dong	6		Ungdong 1-dong	3
	Happo-dong	6			
	Sanho-dong	2		Ungdong 2-dong	8

## 3) Social Welfare & Health

#### ① Construction of Data

- The social welfare facilities are not distributed evenly by administrative district and positioned based on the population density and accessibility.
- O Therefore, the data was constructed by administrative dong in terms of accessibility.
- O First, the land use map was acquired from the national spatial data portal to extract residential, commercial and public facilities used by the elderly and then calculate the shortest distance by each facility.
- The calculated shortest distance was classified by each administrative dong and the average distance was calculated for the shortest access to the facility and then visualized.



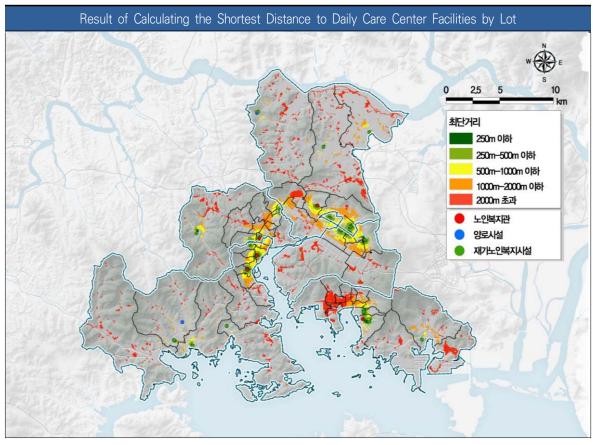


Figure 18. The Shortest Distance to Senior Healthcare and Daily Care Center Facilities

## 2 Average Distance to the Nearest Senior Healthcare Facility

- The shortest average distance to senior healthcare facilities was 1,585m and the administrative dong that has the shortest average distance was Deoksan-dong, in which the average distance to the nearest medical welfare facility was 306m.
- On the other hand, the administrative dong that has the longest average distance was Gusan-myeon(8,934m).
- The distance to access these senior healthcare facilities was based on the population density and accessibility. Therefore, it was natural that eup and myeon areas were analyzed as ones where the accessibility of healthcare facilities was relatively worse. For dongs with high population density, there were many areas where the average distance to senior healthcare facilities was more than 2,000m. When additional healthcare facilities are newly built as part of the healthcare service improvement projects for the elderly, they should be constructed first in these areas.

Table 30. Top 10 Administrative Dongs Ranked in Average Distance to the Nearest Senior Healthcare Facility

Sect.	Average Distance to the Nearest Facility	Sect.	Average Distance to the Nearest Facility
Ungnam-dong	4,152m	Bongam-dong	2,757m
Hyeon-dong	3,641m	Gapo-dong	2,124m
Ungdong 1-dong	3,620m	Yangdeok 1-dong	2,117m
Seongju-dong	3,060m	Yangdeok 2-dong	1,878m
Ungcheon-dong	2,803m	Pungho-dong	1,775m

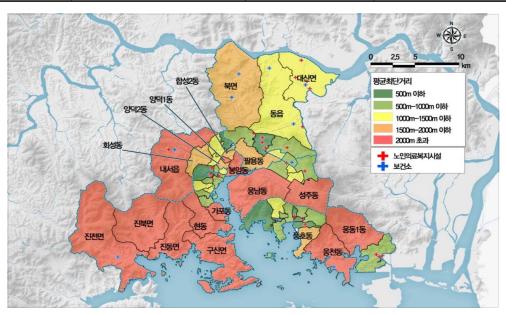


Figure 19. Average Distance to the Nearest Senior Healthcare Facility by Administrative Dong

Table 31. Average Distance to the Nearest Senior Healthcare Facility by Administrative Dong

Gu	Administrative District	Average Distance to the Nearest Facility(m)	Gu	Administrative District	Average Distance to the Nearest Facility(m)
	Dong-eup	1,440		Naeseo-eup	2,005
	Bukmyon	1,961		Hoewon 1-dong	775
	Daesan-myeon	1,309		Hoewon 2-dong	454
Uichang-gu	Uichang-dong	848		Seokjeon-dong	1,204
oronang ga	Paryong-dong	1,617		Hoeseong-dong	1,673
	Myeonggok-dong	423	Masan	Yangdeok 1-dong	2,117
	Bongnim-dong	790	hoiwon-gu	Yangdeok 2-dong	1,878
	Yongji-dong	728	_	Hapseong 1-dong	1,479
	Bansong-dong	1,395		Hapseong 2-dong	1,501
	Jungang-dong	590			
	Sangnam-dong	1,064		Guam 1-dong	351
Seongsan-gu	Sapa-dong	975		Guam 2-dong	629
	Gaeumjeong-dong	1,123		Bongam-dong	2,757
	Seongju-dong	3,060		Jungang-dong	495
	Ungnam-dong	4,152		Taepyeong-dong	921
	Gusan-myeon	8,934		Chungmu-dong	444
	Jindong-myeon	6,184		Yeojwa-dong	1,051
	Jinbuk-myeon	5,750		Taebaek-dong	973
	Jinjeon-myeon	3,541		Gyeonghwa-dong	545
	Hyeon-dong	3,641		Byeongam-dong	427
	Gapo-dong	2,124 707	linhaa au		648
N. 4	Woryeong-dong  Munhwa-dong	707	Jinhae-gu	Seok-dong	
Masan happo-gu	BanwolJungang-dong	1,146		I-dong	343
rappo ga	Wanwol-dong	1,140		Jaeun-dong	788
	Jasan-dong	690		Deoksan-dong	306
	Gyobang-dong	341		Pungho-dong	1,775
	Nosan-dong	377		Ungcheon-dong	2,803
	Odong-dong	608		Ungdong 1-dong	3,620
	Happo-dong	536		Ungdong 2-dong	809
	Sanho-dong	1,128	Average		1,585

## 3 Average Distance to the Nearest Adult Day Care Facility

O In the analysis, the average shortest distance to adult day care facilities was 1,861m and the administrative dong that has the shortest average distance was Deoksan-dong and its average distance was 306m.

- On the other hand, the administrative dong that has the longest average distance was Jinjeon-myeon(6,203m).
- O The distance to access these adult day care facilities was based on the population density and accessibility as in healthcare facilities. The characteristics of the average distance analysis were similar to those of healthcare facilities.
- O Therefore, when additional senior daily care centers, as well as healthcare facilities are newly built for providing complex services related to social welfare and health for the elderly, it would be efficient to plan a complex project in a single space.

Table 32. Top 10 Administrative Dongs Ranked in Average Distance to the Nearest Adult Day Care Facility

Sect.	Average Distance to the Nearest Facility	Sect.	Average Distance to the Nearest Facility
Ungnam-dong	dong 4,523m Tae		3,313m
Jungang-dong(Jinhae-gu)	4,252m	Seongju-dong	3,183m
Yeojwa-dong	Yeojwa-dong 4,232m		3,042m
Gapo-dong	3,868m	Hyeon-dong	3,019m
Chungmu-dong	3,598m	Ungcheon-dong	2,997m

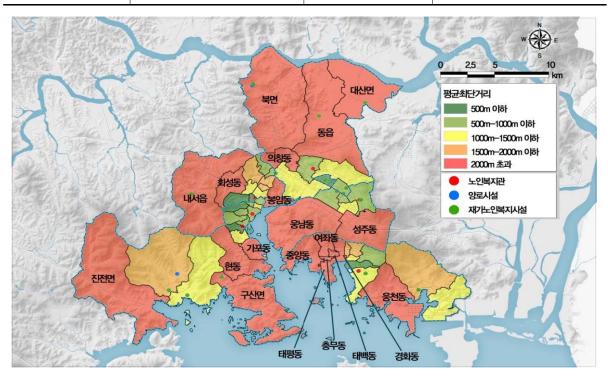


Figure 20. Average Distance to the Nearest Adult Day Care Facility by Administrative Dong

Table 33. Average Distance to the Nearest Adult Day Care Facility by Administrative Dong

Gu	Administrative District	Average Distance to the Nearest Facility(m)	Gu	Administrative District	Average Distance to the Nearest Facility(m)
	Dong-eup	3,752		Naeseo-eup	3,129
Uichang-gu	Bukmyon	3,542		Hoewon 1-dong	334
	Daesan-myeon	2,674		Hoewon 2-dong	446
	Uichang-dong	2,140		Seokjeon-dong	1,204
	Paryong-dong	1,321		Hoeseong-dong	2,164
	Myeonggok-dong	911	Masan	Yangdeok 1-dong	1,746
	Bongnim-dong	1,287	hoiwon-gu	Yangdeok 2-dong	1,273
	Yongji-dong	589		Hapseong 1-dong	1,796
	Bansong-dong	409			
	Jungang-dong	568		Hapseong 2-dong	1,539
	Sangnam-dong	680		Guam 1-dong	862
Seongsan-gu	Sapa-dong	842		Guam 2-dong	520
	Gaeumjeong-dong	1,170		Bongam-dong	2,451
	Seongju-dong	3,183		Jungang-dong	4,252
	Ungnam-dong	4,523		Taepyeong-dong	3,313
	Gusan-myeon	6,002		Chungmu-dong	3,598
	Jindong-myeon	1,425		Yeojwa-dong	4,232
	Jinbuk-myeon	1,789		Taebaek-dong	3,042
	Jinjeon-myeon	6,203			2,439
	Hyeon-dong	3,019		Gyeonghwa-dong	
	Gapo-dong	3,868		Byeongam-dong	1,914
	Woryeong-dong	1,059	Jinhae-gu	Seok-dong	1,556
Masan	Munhwa-dong	380		I-dong	1,027
happo-gu	BanvidJungang-dang	561		Jaeun-dong	921
	Wanwol-dong	860		Deoksan-dong	306
	Jasan-dong	640		Pungho-dong	1,101
	Gyobang-dong	455		Ungcheon-dong	2,997
	Nosan-dong	708			
	Odong-dong	647		Ungdong 1-dong	1,697
	Happo-dong	1,050		Ungdong 2-dong	1,001
	Sanho-dong	843	Ave	erage	1,861

## 4) Civic Participation & Employment(Senior Organization and Senior Employment)

#### ① Construction of Data

- The land use map was acquired from the national spatial data portal to extract residential, commercial and public facilities used by the elderly and then calculate the shortest distance by each facility as in social welfare facilities.
- O The calculated shortest distance was classified by each administrative dong and the average distance was calculated for the shortest access to the facility and then visualized.

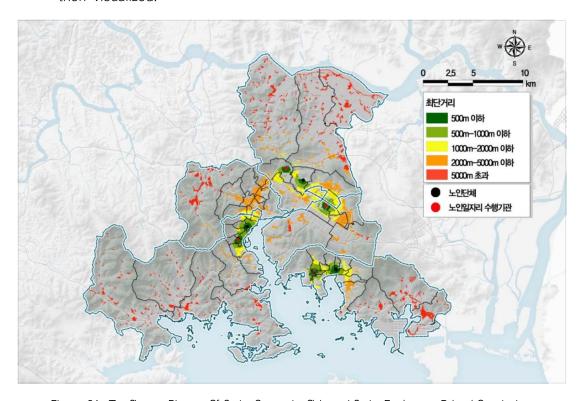


Figure 21. The Shortest Distance Of Senior Community Clubs and Senior Employment Related Organizations

#### 2 Average Distance to the Nearest Civic Participation and Employment Facility

- The shortest average distance of civic participation and employment-related facilities was 3,401m and the administrative dong with the shortest distance was Munhwa-dong and its average distance was 379m.
- On the other hand, the administrative dong with the longest distance was Jinjeon-myeon(16,236m).
- O Besides, among dong areas, administrative dongs that are located on the border such as Masan, Changwon, and Jinhae tended to have longer average distances.

O As facilities concerned are composed of three senior community club facilities and five civic participation and employment-related facilities, it can be said that they are located in the district (gu) unit in terms of distribution.

Table 34. Top 10 Administrative Dongs Ranked in the Average Distance to the Nearest Adult Day Care Facility

Sect.	Average Distance to the Nearest Facility	Sect.	Average Distance to the Nearest Facility
Ungdong 2-dong	12,808m	Hapseong 2-dong	4,159m
Ungdong 1-dong	9,216m	Seongju-dong	4,113m
Ungcheon-dong	7,178m	Hyeon-dong	4,095m
Hapseong 1-dong	4,395m	Hoeseong-dong	3,884m
Ungnam-dong	4,225m	Yangdeok 1-dong	3,710m

O Most of the facilities are located in existing urban areas, so the average access distance is very long in eup and myeon areas.

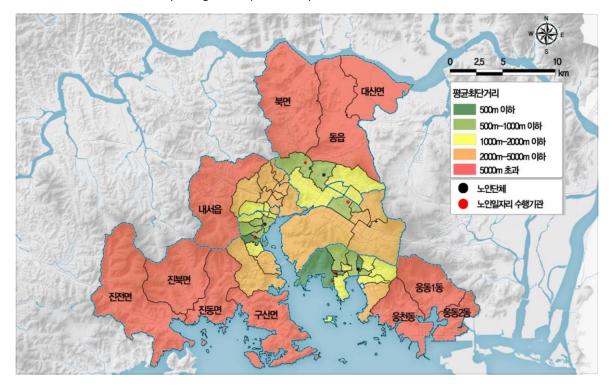


Figure 22. Average Distance to the Nearest Civic Participation and Employment-related Facility by Administrative Dong

Table 35. Average Distance to the Nearest Civic Participation and Employment-related Facility by Administrative Dong

Gu	Administrative District	Average Distance to the Nearest Facility(m)	Gu	Administrative District	Average Distance to the Nearest Facility(m)
	Dong-eup	6,137		Naeseo-eup	7,175
Uichang-gu	Bukmyon	7,677		Hoewon 1-dong	1,914
	Daesan-myeon	11,430		Hoewon 2-dong	1,927
	Uichang-dong	850		Seokjeon-dong	3,120
ordraing gu	Paryong-dong	1,918	•	Hoeseong-dong	3,884
	Myeonggok-dong	870		Yangdeok 1-dong	3,710
	Bongnim-dong	1,968	Masanhoivvon-gu	Yangdeok 2-dong	2,979
	Yongji-dong	1,403		Hapseong 1-dong	4,395
	Bansong-dong	1,733		Hapseong 2-dong	4,159
	Jungang-dong	645		Guam 1-dong	3,109
	Sangnam-dong	977			
Seongsan-gu	Sapa-dong	2,329		Guam 2-dong	3,011
	Gaeumjeong-dong	2,570		Bongam-dong	3,448
	Seongju-dong	4,113		Jungang-dong	447
	Ungnam-dong	4,225		Taepyeong-dong	1,057
	Gusan-myeon	9,250		Chungmu-dong	494
	Jindong-myeon	9,538		Yeojwa-dong	967
	Jinbuk-myeon	10,450		Taebaek-dong	1,081
	Jinjeon-myeon	16,236		Gyeonghwa-dong	720
	Hyeon-dong Gapo-dong	4,095 2,867		Byeongam-dong	382
	Woryeong-dong	1,059	l Jinhae-gu	Seok-dong	1.149
	Munhwa-dong	379	Jilliae gu		, .
Masanhappo-gu	BanwolJungang-dong	561		I-dong	850
	Wanwol-dong	860		Jaeun-dong	1,780
	Jasan-dong	644		Deoksan-dong	1,809
	Gyobang-dong	1,237		Pungho-dong	3,305
	Nosan-dong	1,287		Ungcheon-dong	7,178
	Odong-dong	655		Ungdong 1-dong	9,216
	Happo-dong	1,267		Ungdong 2-dong	12,808
	Sanho-dong	2,005	А	verage	3,401

#### 5) Community and Information

#### ① Construction of Data

- The shortest distance to access each facility was calculated in the same way as the accessibility calculation method to show the accessibility data to community and information by administrative dong from the location of senior welfare center, senior school, and senior college.
- O In the case of senior welfare center, the density of senior welfare centers was calculated from the survey analysis in Chapter 2. Therefore, the number of facilities per administrative dong was calculated without data visualization.

O For senior schools and colleges, the visualization process was used to derive the location of housing or public land(open space) with the worst accessibility and then the average shortest distance was calculated and charted for each administrative dong.

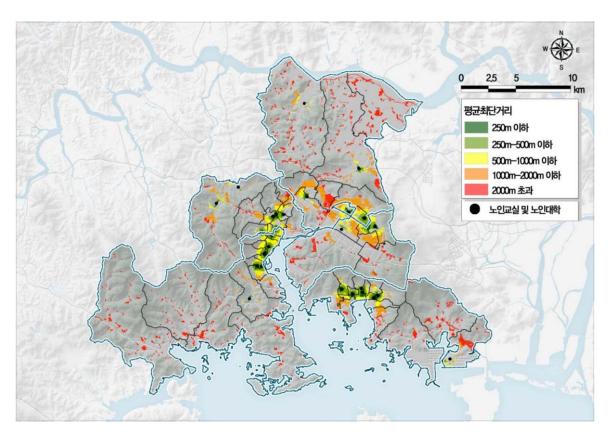


Figure 23. The Shortest Distance to Senior Schools and Senior Colleges By Lot

## ② Average Distance to the Nearest Senior Community Clubs

- O There were 998 senior community clubs in Changwon City and the average distance to access these senior community clubs were 247m from senior residences.
- O In many cases, the access distance to community clubs was farther than in dong, not eup or myeon. The administrative dong, which has the shortest average distance, was analyzed as Pungho-dong. The administrative dong which has the highest accessibility to senior welfare centers was BanwolJungang-dong and its average distance was 110m from senior residences.

Table 36. Top 10 Administrative Dongs Ranked in Average Distance to the Nearest Senior Community Club

Sect.	Average Distance to the Nearest Facility	Sect.	Average Distance to the Nearest Facility
Pungho-dong	1,817m	Jaeun-dong	383m
Deoksan-dong	782m	Ungdong 1-dong	374m
Ungnam-dong	689m	Ungdong 2-dong	355m
Gapo-dong	489m	Hyeon-dong	344m
Paryong-dong	428m	Ungcheon-dong	336m

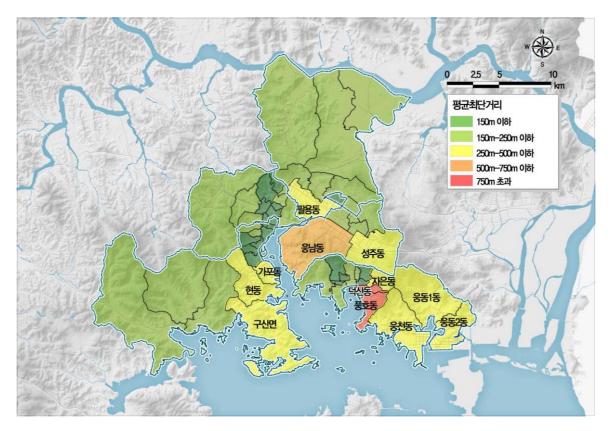


Figure 24. Average Distance to the Nearest Senior Community Club by Administrative Dong

Table 37. Average Distance to the Nearest Senior Community Club by Administrative Dong

Gu	Administrative District	Average Distance to the Nearest Facility(m)	Gu	Administrative District	Average Distance to the Nearest Facility(m)
	Dong-eup	217		Naeseo-eup	194
	Bukmyon	242		Hoewon 1-dong	130
	Daesan-myeon	186		Hoewon 2-dong	153
Uichang-gu	Uichang-dong	158		Seokjeon-dong	122
	Paryong-dong	428		Hoeseong-dong	235
	Myeonggok-dong	209		Yangdeok 1-dong	141
	Bongnim-dong	218	Masanhoiwon-gu	Yangdeok 2-dong	121
	Yongji-dong	201		Hapseong 1-dong	138
	Bansong-dong	144		Hapseong 2-dong	181
	Jungang-dong	191		Guam 1-dong	135
0	Sangnam-dong	156		Guam 2-dong	239
Seongsan-gu	Sapa-dong	205			
	Gaeumjeong-dong	155		Bongam-dong	190
	Seongju-dong	336		Jungang-dong	207
	Ungnam-dong	689		Taepyeong-dong	214
	Gusan-myeon	286 222		Chungmu-dong	120
	Jindong-myeon	199		Yeojwa-dong	141
	Jinbuk-myeon Jinjeon-myeon	199		Taebaek-dong	150
	Hyeon-dong	344		Gyeonghwa-dong	166
	Gapo-dong	489		Byeongam-dong	167
	Woryeong-dong	145	Jinhae-gu	Seok-dong	138
	Munhwa-dong	146		I-dong	150
Masanhappo-gu	BanwolJungang-dong	110		Jaeun-dong	383
	Wanwol-dong	144		Deoksan-dong	782
	Jasan-dong	159			
	Gyobang-dong	151		Pungho-dong	1,817
	Nosan-dong	117		Ungcheon-dong	336
	Odong-dong	121		Ungdong 1-dong	374
	Happo-dong	133		Ungdong 2-dong	355
	Sanho-dong	129	Ave	rage	247

## 3 Average Distance to the Nearest Senior School & Senior College

- O There were 54 senior colleges and schools in Changwon, with an average access distance of 1,670m from senior residences.
- Except for eup and myeon areas, education facilities for seniors showed better accessibility in Masan (Masanhappo-gu, Masanhoiwon-gu) and Jinhae areas than in Changwon areas (Uichang-gu, Seongdong-gu).

○ The administrative dong that has the longest average distance to the Nearest school/college was Ungcheon-dong, followed by Ungdong 1-dong, Ungnam-dong, Seongju-dong, and Ungdong 2-dong. On the other hand, The administrative dong that has the best accessibility was Gyeonghwa-dong(average distance 246m), followed by Nosan-dong(319m), I-dong(321m), Yangdeok 1-dong(345m), and Taebaek-dong(345m).

Table 38. Top 10 Administrative Dongs Ranked in Average Distance to the Nearest Senior Education Facility

Sect.	Average Distance to the Nearest Facility	Sect.	Average Distance to the Nearest Facility
Ungcheon-dong	4,797	Pungho-dong	2,490
Ungdong 1-dong	4,276	Gapo-dong	2,103
Ungnam-dong	3,412	Myeonggok-dong	2,081
Seongju-dong	3,270	Guam 1-dong	1,946
Ungdong 2-dong	2,575	Bongam-dong	1,937

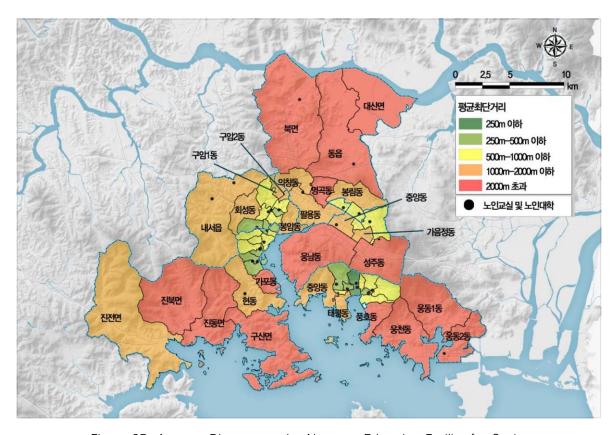


Figure 25. Average Distance to the Nearest Education Facility for Seniors

Table 39. Average Distance to the Nearest Senior Community Club by Administrative Dong

Gu	Administrative District	Average Distance to the Nearest Facility(m)	Gu	Administrative District	Average Distance to the Nearest Facility(m)
	Dong-eup	2,560		Naeseo-eup	1,739
	Bukmyon	3,243		Hoewon 1-dong	492
	Daesan-myeon	6,872		Hoewon 2-dong	456
Uichang-gu	Uichang-dong	1,472			
	Paryong-dong	1,238		Seokjeon-dong	639
	Myeonggok-dong	2,081		Hoeseong-dong	1,778
	Bongnim-dong	1,513	Masan	Yangdeok 1-dong	345
	Yongji-dong	533	hoiwon-gu	Yangdeok 2-dong	744
	Bansong-dong	970		Hapseong 1-dong	918
	Jungang-dong	1,020		Hapseong 2-dong	605
	Sangnam-dong	985		Guam 1-dong	1,946
Seongsan-gu	Sapa-dong	695			
	Gaeumjeong-dong	1,518		Guam 2-dong	1,597
	Seongju-dong	3,270		Bongam-dong	1,937
	Ungnam-dong	3,412		Jungang-dong	1,036
	Gusan-myeon	6,903		Taepyeong-dong	1,318
	Jindong-myeon	5,907		Chungmu-dong	679
	Jinbuk-myeon	7,892		Yeojwa-dong	499
	Jinjeon-myeon	1,359		Taebaek-dong	360
	Hyeon-dong	1,910		Gyeonghwa-dong	246
	Gapo-dong	2,103		Byeongam-dong	 514
	Woryeong-dong	481	Jinhae-gu	Seok-dong	650
Masan	Munhwa-dong	450		I-dong	321
happo-gu	BanwolJungang-dong	476		Jaeun-dong	555
	Wanvvol-dong	539		-	
	Jasan-dong	633		Deoksan-dong	805
	Gyobang-dong	583		Pungho-dong	2,490
	Nosan-dong	319		Ungcheon-dong	4,797
	Odong-dong	570		Ungdong 1-dong	4,276
	Happo-dong	549		Ungdong 2-dong	2,575
	Sanho-dong	491	A	/erage	1,670

## 4. Analysis Result and Summary for Vulnerable Areas

- O Based on the indices extracted earlier, a standardized score for each index was calculated. The average was calculated by totaling each standardized score.
  - If the standardized score of an index is negative(-), it indicates that the current status of a community is better than the overall average of Changwon City. If it is positive(+), it indicates that the current status of a community is worse than the overall average of Changwon City.
  - Therefore, the current status can be checked at a glance per each index of the administrative dong and the same evaluation criteria are used, so that the overall rating is possible through overall average or total.
  - As shown in the characteristics of the selected indices in (Table 3-2), high index values indicate poor age-friendliness. Therefore, the higher the total average, the lower the overall age-friendliness of administrative dong.
- The analysis result showed that there were 24 administrative districts where the average of the standardized scores exceeded 0 (indicating a less-friendly district as age-friendly city), of which 8 were eup and myeon areas of Changwon City and the remaining 16 were dong areas.

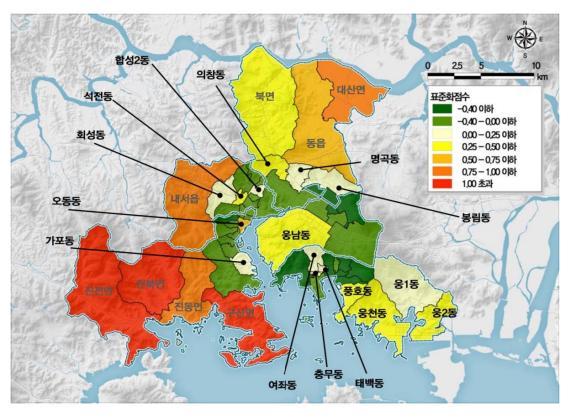


Figure 26. Average of Standardized Score by Index Related to Age-Friendliness by Administrative Dong Note: The higher the standardization score, the more vulnerable the age-friendly city environment

- In the analysis, Odong-dong and Seokjeon-dong were administrative districts that may cause serious problems in the composition of senior population and traffic accidents.
   Uichang-dong had serious problems in seniors living alone, adult day care centers and traffic accidents.
- Ungdong 2-dong revealed problems related to education for seniors and employment, traffic accident, and seniors living alone and Ungnam-dong showed relatively low levels of age-friendliness in all survey questionnaire items including education facility, employment-related institutes, senior healthcare, and senior day care, etc., excluding the number of senior citizens.
- O Besides, eup and myeon areas revealed problems in most indices excluding senior community clubs and traffic accidents aside from the composition of the senior population.
  - In particular, Gusan-myeon, Jindong-myeon, Jinbuk-myeon, and Jinjeon-myeon located in Masanhappo-gu had a lot of standard scores exceeding 2 or 3 points in focus areas of education for seniors, employment, and senior care. It was considered necessary to build the multipurpose senior centers and medical facilities in these communities.

Table 40. Calculation Results in Standardized Scores by Index

Set   Administrative Desirt   Agraph   Seterative   Number of Desires to Desire to Desires to Desires to Desires to Desires to Desires to Desire to Desires to Desire to Desires to Desires to Desires to Desires to Desires to Desire to D													
Sact						Amess	Amess	Amess		Amess	Number of		
Section				Suctananca	Number of				Access				Standardizad
Dorg-sap   -0.289	Coot	Administrativa District	Aging						Distance to		Pedestrians	Pedestrian	
Durgraph   -0.259	Sect.	Aurinistrative district	Index						Healthcare		Traffic	Death Spot	
Chargests   Court				Seniors	LIVING Alone		0.		Facilities		Accident		Average
Dring-up   -0.288						Clubs	Ol	Institutes		Facilities	Occurred		
Debuty		Dono-eun	-0.289	-0.087	1.890	-0.120	0.505	0.779	-0.091	1.326	0.953	1,667	0.652
Udergrophy													
Usersign   Hermograding													
March   Parvoy-chron   -0.720   -1.056   -0.224   0.758   -0.165   -0.043   0.120   -0.379   0.600   1.339   0.000		Llichana-dona											
Memograching	Uichang-gu												
Bonyminstong													
Progression   Color   Color													
Secongary   0.722   -1.098   0.000   -0.416   -0.377   -0.475   -0.119   -1.019   0.128   0.028   -0.031     Jurgary-drug   -0.576   -1.131   -0.445   -0.226   -0.238   -0.285   -0.621   -0.927   -0.934   -0.856   -0.270     Sargardung   -0.774   -1.183   0.614   -0.189   -0.833   -0.361   -0.325   -0.828   -0.434   -0.856   -0.770     Sargardung   -0.775   -1.224   -0.356   -0.372   -0.688   -0.237   -0.289   -0.455   -0.000   -0.356   -0.285     Secgle-drug   -0.890   -1.339   -1.322   -0.322   -0.937   -0.229   -0.455   -0.000   -0.367   -0.285     Secgle-drug   -0.860   -1.329   -1.322   -0.322   -0.032   -0.277   -0.289   -0.455   -0.000   -0.367   -0.245     Secgle-drug   -0.860   -0.139   -1.322   -0.322   -0.032   -0.225   -0.027   -0.293   -0.627   -0.246     Secgle-drug   -0.860   -0.166   -0.189   -0.288   1.666   -0.285   -0.000   -0.277   -0.289   -0.627   -0.246     Secgle-drug   -0.333   -0.087   -0.122   -0.100   -0.243   1.788   -0.257   -0.230   -0.013   -0.027   -0.247     Jurgary-man   -0.333   -0.087   -0.129   -0.100   -0.129   -0.100   -0.129   -0.100   -0.129   -0.100   -0.129   -0.100   -0.129   -0.100   -0.129   -0.100   -0.129   -0.100   -0.129   -0.100   -0.129   -0.100   -0.129													
Sangsan													
Serrigan-right   -0.001   -1.200   -1.191   -0.388   -0.881   -0.325   -0.281   -0.715   -0.574   -0.300   -0.265   -0.277													
Spending													
Geninscrychtrg   -0.785   -1.254   -0.355   -0.372   -0.086   -0.237   -0.289   -0.485   -0.010   -0.536   -0.246	Seongsan-												
Serrigin-drop	gu												
Comparison   Com		, , ,											
Gusermen													
Informmen   -0.388   0.087   0.172   -0.100   2.403   1.748   2.870   -0.056   -0.016   1.339   0.075     Informmen   4.684   3.749   0.012   -0.198   3.529   2.008   2.596   -0.051   -0.053   -0.033   -0.027   1.438     Hyeor-drog   -0.747   -0.638   -0.386   0.395   0.136   0.197   1.236   0.812   -0.697   -0.030   -0.014     Geordrog   -0.139   1.016   -1.730   0.988   0.246   -0.152   0.366   -0.052   -0.697   -0.050   -0.014     Geordrog   -0.157   -0.482   -0.076   -0.412   -0.674   -0.667   -0.546   -0.563   -1.189   -0.300   -0.014     Minhar-drog   0.318   0.416   0.463   -0.408   -0.692   -0.667   -0.546   -0.563   -1.189   -0.300   -0.025     Minhar-drog   0.177   0.287   0.965   -0.554   -0.677   -0.801   -0.546   -0.602   -0.167   -0.167     Masan Happro-grading   -0.172   0.287   0.965   -0.564   -0.672   -0.801   -0.244   -0.167   -0.167   -0.167   -0.167     Masan Happro-grading   -0.172   0.287   -0.565   -0.564   -0.672   -0.667   -0.546   -0.603   -1.039   1.307   -0.627   -0.167     Masan Happro-grading   -0.172   0.287   -0.565   -0.564   -0.672   -0.616   -0.267   -0.167   -0.772   -0.016   -0.227   -0.028     George-grading   -0.322   0.013   -0.637   -0.386   -0.868   -0.869   -0.659   -0.057   -0.108   -0.277   -0.288     George-grading   -0.322   0.013   -0.637   -0.386   -0.868   -0.659   -0.659   -0.579   -0.108   -0.277   -0.288     George-grading   -0.322   0.013   -0.637   -0.386   -0.386   -0.786   -0.030   -0.774   -0.080   -0.579   -0.300   -0.524     Nasar-drog   0.227   -0.344   -0.431   -0.266   -0.868   -0.657   -0.777   -0.986   -0.559   -0.579   -0.300   -0.524     Nasar-drog   0.322   0.575   0.002   -0.785   -0.064   -0.783   -0.065   -0.059   -0.579   -0.380   -0.584													
Jinbu-myeon													
Mijern-mpon   4.694   3.749   0.002   -0.197   -0.176   3.686   1.221   3.045   -0.633   -0.687   -0.300   -0.014     Hyern-drog													
Hyson-darg										+			
Reporting   1.308													
Mesan													
Massan													
Perporgue   Perp		Woryeong-dong											
Warned-dong   0.179   0.222   -0.172   -0.416   -0.641   -0.724   -0.187   -0.702   0.010   -0.627   -0.305   -0.305   -0.305   -0.308   -0.788   -0.788   -0.789   -0.857   -0.108   -0.627   -0.305   -0.306   -0.308   -0.678   -0.678   -0.857   -0.300   -0.524   -0.857   -0.300   -0.524   -0.857   -0.300   -0.524   -0.857   -0.300   -0.524   -0.858	Masan												-0.167
Jasan-dong	happo-gu	BanwolJungang-dong	-0.172		0.965	-0.554	-0.677			-0.912	0.718		-0.009
Gyclerg-dorg		Wanwol-dong	0.179		-0.172	-0.416	-0.641	-0.724	-0.187	-0.702	0.010	-0.627	-0.305
Nosan-dorg   0.227		Jasan-dong	0.102	0.323	0.171	-0.356	-0.588	-0.786	-0.559	-0.857	-0.108	-0.627	-0.328
Cotong-dorg   0.175		Gyobang-dong	-0.352	0.013	-0.637	-0.388	-0.617	-0.617	-0.777	-0.986	-0.579	-0.300	-0.524
Colorg-dorg   0.175				0.844	-0.431	-0.526	-0.766	-0.603	-0.754	-0.809	-0.344	-0.300	-0.346
Happondrig			0,175	0,469	2,773	-0,510	-0.624	-0.783	-0,610	-0.852	4,726	0.684	0.545
Sanho-ching							-0.636						
Nesser-eup   -0.677   -0.795   3.434   -0.214   0.009   1.075   0.262   0.889   0.835   3.306   0.815     Hoewon 1-dong   0.754   0.903   1.227   -0.473   -0.668   -0.424   -0.506   -1.071   -0.108   0.028   -0.024     Hoewon 2-dong   0.285   0.535   -0.095   -0.330   -0.689   -0.420   -0.706   -0.993   -0.226   -0.955   -0.364     Sextjeon-dong   0.191   0.479   0.835   -0.506   -0.586   -0.080   -0.238   -0.461   1.307   2.323   0.327     Hoeseong-dong   1.269   0.925   -0.228   -0.047   0.061   0.137   0.055   0.212   -0.461   -0.300   0.162     Heseong-dong   -0.117   -0.046   0.020   -0.429   -0.752   0.088   0.332   -0.081   -0.344   -0.627   -0.196     Hayseong 1-dong   -0.167   -0.708   0.274   -0.510   -0.525   -0.120   0.183   -0.413   0.128   0.366   -0.201     Hayseong 1-dong   -0.126   -0.097   -0.331   -0.441   -0.427   0.223   -0.066   -0.046   -0.697   1.339   -0.061     Hayseong 2-dong   0.079   0.057   -0.257   -0.483   0.156   -0.083   -0.770   -0.701   -0.108   -1.283   -0.336     Gaarn 1-dong   0.079   0.057   -0.257   -0.483   0.156   -0.083   -0.770   -0.701   -0.461   -0.627   -0.394     Bongam-dong   -0.010   -0.104   -1.375   -0.230   0.151   0.013   0.731   0.444   -0.933   -0.956   -0.230     Jungarg-dong   -0.829   -0.956   -1.330   -0.161   -0.360   -0.842   -0.680   1.677   -0.815   -1.283   -0.560     Teaple-ng-dong   -0.140   0.332   -0.877   -0.122   -0.200   -0.684   -0.683   -0.771   -0.414   -0.323   -0.560     Teaple-ng-dong   -0.140   0.332   -0.0874   -0.052   -0.828   -0.415   1.018   -0.226   -0.955   -0.227     Tourgru-dong   -0.602   1.588   -0.586   -0.514   -0.562   -0.828   -0.712   1.218   0.600   -0.300   0.051     Teatle-dong   0.602   1.588   -0.586   -0.514   -0.562   -0.828   -0.712   1.218   0.600   -0.300   0.051     Teatle-dong   0.602   1.588   -0.586   -0.514   -0.559   -0.664   -0.664   -0.689   -0.333   -0.667   -0.333   -0.667   -0.333   -0.667   -0.333   -0.667   -0.333   -0.667   -0.333   -0.667   -0.335   -0.667   -0.335   -0.667   -0.335   -0.66													
Hoewon 1-dong		· ·											
Hoewon 2-dorg   0.285   0.535   -0.095   -0.380   -0.689   -0.420   -0.706   -0.993   -0.226   -0.955   -0.364     Seckjeon-dorg   0.191   0.479   0.835   -0.506   -0.585   -0.080   -0.238   -0.461   1.307   2.323   0.327     Hoeseong-dorg   1.289   0.925   -0.228   -0.047   0.061   0.137   0.065   0.212   -0.461   -0.300   0.162     Yangdeok 1-dorg   -0.117   -0.046   0.020   -0.429   -0.752   0.088   0.332   -0.081   -0.344   -0.627   -0.136     Hapseong 1-dorg   -0.126   -0.078   0.274   -0.510   -0.525   -0.120   0.183   -0.413   0.128   0.356   -0.201     Hapseong 2-dorg   -0.126   -0.097   -0.331   -0.441   -0.427   0.283   -0.066   -0.066   -0.0697   1.339   -0.061     Hapseong 2-dorg   0.417   0.172   -0.316   -0.266   -0.604   0.216   -0.063   -0.226   0.600   0.336   0.030     Guarn 1-dorg   0.079   0.057   -0.257   -0.453   0.156   -0.083   -0.770   -0.701   -0.108   -1.283   -0.366     Guarn 2-dorg   -0.235   -0.218   -0.674   -0.031   -0.041   -0.111   -0.597   -0.941   -0.461   -0.627   -0.394     Borgam-dorg   -0.010   -0.104   -1.375   -0.230   0.151   0.013   0.731   0.414   -0.933   -0.956   -0.230     Jurgang-dorg   -0.829   -0.956   -1.330   -0.161   -0.360   -0.942   -0.660   1.677   -0.815   -1.283   -0.560     Taepy-eng-dorg   0.062   1.588   -0.566   -0.514   -0.562   -0.629   -0.172   1.218   0.600   -0.300   0.051     Yeojve-dorg   0.624   1.394   0.824   -0.429   -0.664   -0.694   -0.333   1.663   -0.461   -0.300   0.051     Yeojve-dorg   0.624   1.394   0.824   -0.429   -0.666   -0.664   -0.694   -0.333   1.663   -0.461   -0.300   0.162     Jinhae-gu   Jinha													
Sedjeon-dong   0.191													
Hosseng-dong													
Masan hown-gu         Yangdeck 1-dong         -0.117         -0.046         0.020         -0.429         -0.752         0.088         0.332         -0.081         -0.344         -0.627         -0.196           Hown-gu         Yangdeck 2-dong         -0.670         -0.708         0.274         -0.510         -0.525         -0.120         0.183         -0.413         0.128         0.356         -0.201           Hapssong 1-dong         -0.126         -0.097         -0.331         -0.441         -0.427         0.283         -0.066         -0.046         -0.697         1.339         -0.061           Hapssong 2-dong         0.417         0.172         -0.316         -0.266         -0.604         0.216         -0.063         -0.226         0.600         0.356         0.030           Gum 1-dong         0.079         0.057         -0.257         -0.453         0.156         -0.083         -0.770         -0.701         -0.108         -1.283         -0.336           Gum 2-dong         -0.235         -0.218         -0.674         -0.031         -0.041         -0.111         -0.597         -0.941         -0.441         -0.627         -0.334           Jungang-dong         -0.029         -0.966         -1.357         <		, ,											
Name													
Hapseing 1-dorg													
Hapseong 2-dong	noiwon-gu												
Guam 1-dong 0.079 0.057 -0.257 -0.453 0.156 -0.083 -0.770 -0.701 -0.108 -1.283 -0.336   Guam 2-dong -0.235 -0.218 -0.674 -0.031 -0.041 -0.111 -0.597 -0.941 -0.461 -0.627 -0.394   Bongam-dong -0.010 -0.104 -1.375 -0.230 0.151 0.013 0.731 0.414 -0.933 -0.965 -0.230   Jungang-dong -0.829 -0.966 -1.350 -0.161 -0.360 -0.842 -0.680 1.677 -0.815 -1.283 -0.560   Taepyeong-dong -0.140 0.322 -0.877 -0.132 -0.200 -0.668 -0.415 1.018 -0.226 -0.955 -0.227   Chungmu-dong 0.602 1.588 -0.586 -0.514 -0.562 -0.828 -0.712 1.218 0.600 -0.300 0.051   Yeojwa-dong 0.602 1.394 0.824 -0.429 -0.664 -0.694 -0.333 1.663 -0.461 -0.300 0.162   Taebæek-dong 1.003 1.393 -0.002 -0.392 -0.743 -0.661 -0.382 0.828 -0.697 0.356 0.070   Gyeorghwa-dong -0.454 -0.162 -0.419 -0.327 -0.808 -0.764 -0.649 0.405 -0.933 -0.955 -0.507   Byeorgam-dong -0.352 0.054 -0.593 -0.323 -0.666 -0.860 -0.723 0.037 0.128 -0.627 -0.391   Jinhae-gu Seok-dong -0.770 -0.936 -1.169 -0.441 -0.579 -0.642 -0.586 -0.214 0.835 -0.627 -0.513   Jaeun-dong -0.748 -0.827 -0.442 0.553 -0.632 -0.727 -0.775 -0.585 -0.579 0.028 -0.404   Decksan-dong -0.748 -0.827 -0.442 0.553 -0.632 -0.462 -0.498 -0.660 -0.108 -0.955 -0.478   Decksan-dong -0.662 -0.407 -0.818 2.171 -0.491 -0.454 -0.798 -1.091 -0.579 -1.283 -0.400   Pungtio-dong -0.820 -0.896 -0.560 6.368 0.465 -0.028 0.118 -0.533 -0.815 -0.627 0.227   Ungcheon-dong -0.606 -0.416 -0.228 0.362 1.773 1.076 0.760 0.797 -1.051 0.356 0.282   Ungdong 1-dong -0.506 -0.101 -1.047 0.516 1.478 1.666 1.270 -0.115 -0.933 -0.300 0.192													
Guam 2-dong   -0.235   -0.218   -0.674   -0.031   -0.041   -0.111   -0.597   -0.941   -0.461   -0.627   -0.394													
Bongam-dong													-0.336
Jurgang-dong   -0.829   -0.956   -1.350   -0.161   -0.360   -0.842   -0.680   1.677   -0.815   -1.283   -0.560     Taepyeong-dong   -0.140   0.322   -0.877   -0.132   -0.200   -0.668   -0.415   1.018   -0.226   -0.955   -0.227     Chungmu-dong   0.602   1.588   -0.586   -0.514   -0.562   -0.828   -0.712   1.218   0.600   -0.300   0.051     Yeojwa-dong   0.624   1.394   0.824   -0.429   -0.664   -0.694   -0.333   1.663   -0.461   -0.300   0.162     Taebaek-dong   1.003   1.393   -0.002   -0.392   -0.743   -0.661   -0.382   0.828   -0.697   0.356   0.070     Gyeonghwa-dong   -0.454   -0.162   -0.419   -0.327   -0.808   -0.764   -0.649   0.405   -0.933   -0.955   -0.507     Byeongam-dong   -0.352   0.054   -0.593   -0.323   -0.666   -0.860   -0.723   0.037   0.128   -0.627   -0.391     Jinhae-gu   Seck-dong   -0.770   -0.936   -1.169   -0.441   -0.579   -0.642   -0.585   -0.214   0.835   -0.627   -0.513     I-dong   0.033   0.050   -0.324   -0.392   -0.765   -0.727   -0.775   -0.585   -0.579   0.028   -0.404     Jaeun-dong   -0.748   -0.827   -0.442   0.553   -0.632   -0.462   -0.498   -0.660   -0.108   -0.955   -0.478     Deoksan-dong   -0.652   -0.407   -0.818   2.171   -0.491   -0.454   -0.798   -1.091   -0.579   -1.283   -0.440     Pungho-dong   -0.820   -0.896   -0.560   6.368   0.465   -0.028   0.118   -0.533   -0.815   -0.627   0.267     Ungcheon-dong   -0.606   -0.416   -0.228   0.362   1.773   1.076   0.760   0.797   -1.051   0.356   0.282     Ungdong 1-dong   -0.506   -0.101   -1.047   0.516   1.478   1.656   1.270   -0.115   -0.933   -0.300   0.192		Guam 2-dong			-0.674	-0.031	-0.041		-0.597	-0.941	-0.461	-0.627	-0.394
Jungang-dong   -0.829   -0.966   -1.350   -0.161   -0.360   -0.842   -0.680   1.677   -0.815   -1.283   -0.560     Taepyeong-dong   -0.140   0.322   -0.877   -0.132   -0.200   -0.668   -0.415   1.018   -0.226   -0.955   -0.227     Chungmu-dong   0.602   1.588   -0.586   -0.514   -0.562   -0.828   -0.712   1.218   0.600   -0.300   0.051     Yeojwa-dong   0.624   1.394   0.824   -0.429   -0.664   -0.694   -0.333   1.663   -0.461   -0.300   0.162     Taebaek-dong   1.003   1.393   -0.002   -0.392   -0.743   -0.661   -0.382   0.828   -0.697   0.356   0.070     Gyeonghwa-dong   -0.454   -0.162   -0.419   -0.327   -0.808   -0.764   -0.649   0.405   -0.933   -0.955   -0.507     Byeongam-dong   -0.352   0.054   -0.593   -0.323   -0.666   -0.860   -0.723   0.037   0.128   -0.627   -0.391     Jinhae-gu   Seok-dong   -0.770   -0.936   -1.169   -0.441   -0.579   -0.642   -0.585   -0.214   0.835   -0.627   -0.513     I-dong   0.033   0.050   -0.324   -0.392   -0.765   -0.727   -0.775   -0.585   -0.579   0.028   -0.404     Jaeun-dong   -0.748   -0.827   -0.442   0.553   -0.632   -0.462   -0.498   -0.660   -0.108   -0.955   -0.478     Deoksan-dong   -0.652   -0.407   -0.818   2.171   -0.491   -0.454   -0.798   -1.091   -0.579   -1.283   -0.440     Pungho-dong   -0.820   -0.896   -0.560   6.368   0.465   -0.028   0.118   -0.533   -0.815   -0.627   0.267     Ungcheon-dong   -0.606   -0.416   -0.228   0.362   1.773   1.076   0.760   0.797   -1.051   0.356   0.282     Ungdong 1-dong   -0.506   -0.101   -1.047   0.516   1.478   1.656   1.270   -0.115   -0.933   -0.300   0.192		Bongam-dong	-0.010	-0.104	-1.375	-0.230	0.151	0.013	0.731	0.414	-0.933	-0.955	-0.230
Taepyeong-dong		Jungang-dong								1.677	-0.815		-0.560
Chungmu-dong         0.602         1.588         -0.586         -0.514         -0.562         -0.828         -0.712         1.218         0.600         -0.300         0.051           Yeojwa-dong         0.624         1.394         0.824         -0.429         -0.664         -0.694         -0.333         1.663         -0.461         -0.300         0.162           Taebaek-dong         1.003         1.393         -0.002         -0.392         -0.743         -0.661         -0.382         0.828         -0.697         0.356         0.070           Gyeonghwa-dong         -0.454         -0.162         -0.419         -0.327         -0.808         -0.764         -0.649         0.405         -0.933         -0.955         -0.507           Byeongam-dong         -0.352         0.054         -0.593         -0.323         -0.666         -0.860         -0.723         0.037         0.128         -0.627         -0.391           Jinhae-gu         Seok-dong         -0.770         -0.936         -1.169         -0.441         -0.579         -0.642         -0.585         -0.214         0.835         -0.627         -0.513           Jaeun-dong         -0.748         -0.827         -0.442         0.553         -0.632													-0.227
Yeojwar-dong         0.624         1.394         0.824         -0.429         -0.664         -0.694         -0.333         1.663         -0.461         -0.300         0.162           Taebaek-dong         1.003         1.393         -0.002         -0.392         -0.743         -0.661         -0.382         0.828         -0.697         0.356         0.070           Gyeonghwa-dong         -0.454         -0.162         -0.419         -0.327         -0.808         -0.764         -0.649         0.405         -0.933         -0.955         -0.507           Byeongam-dong         -0.352         0.054         -0.593         -0.323         -0.666         -0.860         -0.723         0.037         0.128         -0.627         -0.391           Jinhae-gu         Seok-dong         -0.770         -0.936         -1.169         -0.441         -0.579         -0.642         -0.585         -0.214         0.835         -0.627         -0.513           I-dong         0.033         0.050         -0.324         -0.392         -0.765         -0.727         -0.775         -0.585         -0.579         0.028         -0.404           Jaeun-dong         -0.748         -0.827         -0.442         0.553         -0.632				1,588							0,600		0.051
Gyeonghwa-dong         -0.454         -0.162         -0.419         -0.327         -0.808         -0.764         -0.649         0.405         -0.933         -0.955         -0.507           Byeongam-dong         -0.352         0.054         -0.593         -0.323         -0.666         -0.860         -0.723         0.037         0.128         -0.627         -0.391           Jinhae-gu         Seok-dong         -0.770         -0.936         -1.169         -0.441         -0.579         -0.642         -0.585         -0.214         0.835         -0.627         -0.513           I-dong         0.033         0.050         -0.324         -0.392         -0.765         -0.727         -0.775         -0.585         -0.579         0.028         -0.404           Jaeun-dong         -0.748         -0.827         -0.442         0.553         -0.632         -0.462         -0.498         -0.660         -0.108         -0.955         -0.478           Deoksan-dong         -0.652         -0.407         -0.818         2.171         -0.491         -0.454         -0.798         -1.091         -0.579         -1.283         -0.440           Pungho-dong         -0.820         -0.896         -0.560         6.368         0.465		Yeojwa-dong							-0.333		-0.461		0.162
Byeongam-dong													0.070
Jinhae-gu         Seok-dong         -0.770         -0.936         -1.169         -0.441         -0.579         -0.642         -0.585         -0.214         0.835         -0.627         -0.513           I-dong         0.033         0.050         -0.324         -0.392         -0.765         -0.727         -0.775         -0.585         -0.579         0.028         -0.404           Jaeun-dong         -0.748         -0.827         -0.442         0.553         -0.632         -0.462         -0.498         -0.660         -0.108         -0.955         -0.478           Deoksan-dong         -0.652         -0.407         -0.818         2.171         -0.491         -0.454         -0.798         -1.091         -0.579         -1.283         -0.440           Pungho-dong         -0.820         -0.896         -0.560         6.368         0.465         -0.028         0.118         -0.533         -0.815         -0.627         0.267           Ungcheon-dong         -0.606         -0.416         -0.228         0.362         1.773         1.076         0.760         0.797         -1.051         0.356         0.282           Ungdong 1-dong         -0.506         -0.101         -1.047         0.516         1.478													-0.507
I-dong         0.033         0.050         -0.324         -0.392         -0.765         -0.727         -0.775         -0.585         -0.579         0.028         -0.404           Jaeun-dong         -0.748         -0.827         -0.442         0.553         -0.632         -0.462         -0.498         -0.660         -0.108         -0.955         -0.478           Deoksan-dong         -0.652         -0.407         -0.818         2.171         -0.491         -0.454         -0.798         -1.091         -0.579         -1.283         -0.440           Pungho-dong         -0.820         -0.896         -0.560         6.368         0.465         -0.028         0.118         -0.533         -0.815         -0.627         0.267           Ungcheon-dong         -0.606         -0.416         -0.228         0.362         1.773         1.076         0.760         0.797         -1.051         0.356         0.282           Ungdong 1-dong         -0.506         -0.101         -1.047         0.516         1.478         1.656         1.270         -0.115         -0.933         -0.300         0.192		, , ,											-0.391
Jaeun-dong         -0.748         -0.827         -0.442         0.553         -0.632         -0.462         -0.498         -0.660         -0.108         -0.955         -0.478           Deoksan-dong         -0.652         -0.407         -0.818         2.171         -0.491         -0.454         -0.798         -1.091         -0.579         -1.283         -0.440           Pungho-dong         -0.820         -0.896         -0.560         6.368         0.465         -0.028         0.118         -0.533         -0.815         -0.627         0.267           Ungcheon-dong         -0.606         -0.416         -0.228         0.362         1.773         1.076         0.760         0.797         -1.051         0.356         0.282           Ungdong 1-dong         -0.506         -0.101         -1.047         0.516         1.478         1.656         1.270         -0.115         -0.933         -0.300         0.192	Jinhae-gu												-0.513
Decksan-dong         -0.652         -0.407         -0.818         2.171         -0.491         -0.454         -0.798         -1.091         -0.579         -1.283         -0.440           Pungho-dong         -0.820         -0.896         -0.560         6.368         0.465         -0.028         0.118         -0.533         -0.815         -0.627         0.267           Ungcheon-dong         -0.606         -0.416         -0.228         0.362         1.773         1.076         0.760         0.797         -1.051         0.356         0.282           Ungdong 1-dong         -0.506         -0.101         -1.047         0.516         1.478         1.656         1.270         -0.115         -0.933         -0.300         0.192		I-dong											-0.404
Pungho-dong         -0.820         -0.896         -0.560         6.368         0.465         -0.028         0.118         -0.533         -0.815         -0.627         0.267           Ungcheon-dong         -0.606         -0.416         -0.228         0.362         1.773         1.076         0.760         0.797         -1.051         0.356         0.282           Ungdong 1-dong         -0.506         -0.101         -1.047         0.516         1.478         1.656         1.270         -0.115         -0.933         -0.300         0.192													-0.478
Ungcheon-clong         -0.606         -0.416         -0.228         0.362         1.773         1.076         0.760         0.797         -1.051         0.356         0.282           Ungdong 1-dong         -0.506         -0.101         -1.047         0.516         1.478         1.656         1.270         -0.115         -0.933         -0.300         0.192													-0.440
Ungdong 1-dong -0.506 -0.101 -1.047 0.516 1.478 1.656 1.270 -0.115 -0.933 -0.300 0.192													0,267
													0,282
Ungdong 2-dong   -0.828   -1.057   0.156   0.439   0.513   2.680   -0.485   -0.603   1.071   1.339   0.323													0.192
		Ungdong 2-dong	-0.828	-1.057	0,156	0,439	0,513	2,680	-0,485	-0,603	1,071	1,339	0,323

# IV. Action Plan to Create Age-Friendly Changwon

## 1. Planning Direction

- The action plan to create Age-Friendly Changwon is to establish a comprehensive and preventive age-friendly plan customized for people-oriented Changwon. Its primary purpose is to make a place that encourages active aging by optimizing opportunities for health, participation, and security to enhance a quality of life as people age, as provided by the GNAFCC.
- O Therefore, the planning direction is divided into three specific goals.
- O First, create a plan across all areas including policies related to the senior welfare so that the senior citizens in Changwon can enjoy a convenient, safe, and active aging.
  - Creating a plan to ensure a balance between social and physical environments to create a city environment where all generations want to stay as they age.
  - Planning not only for the senior welfare area but also for various areas that directly affect the lives of the senior citizens, including transportation and housing.
  - Currently, the Elderly & Disability Services Division under the Welfare & Women's
    Policy Bureau is in charge of Changwon city's senior policy. But this action plan
    will collaborate and coordinate all senior welfare services in the private or
    business sectors related to the elderly throughout the administration.
- O Second, create a plan that all citizens can experience and agree with.
  - Sharing awareness that the age-friendly city policy is not for a specific generation of senior citizens, but its purpose is to make a place that works to improve the livelihood of people of all ages.
- O Third, create a feasible plan.
  - This planning purpose is to seek the acquisition of GNAFFC membership, which is being promoted by WHO. But its real goal is to create a social and physical environment in Changwon City as an age-friendly city by joining the GNAFFC membership. This is to help Changwon City join the efforts of international communities to solve problems according to the aging population.
  - Thus this action plan is the first plan of Changwon City to make an age-friendly city, considering the feasibility most importantly.

- Since eight focus areas, strategies and action plans to realize the strategies required by the WHO's GNAFFC network cover all areas of the city policy including the welfare, the collaboration and cooperation of each department in Changwon City, a main driving force, is very important.
- Thus we set the policy direction to improve collaboration across departments of the 7th Changwon City elected by popular vote with the promotion strategy to make an age-friendly city and prepare a sustainable action plan.

## 2. Vision and Goal

- O The vision of an age-friendly Changwon was set as 'Livable Changwon to Realize the Value of Old Age'. As implied by the vision, the goals of the age-friendly city are to create a city where older people do not want to leave even after their retirement and a city where they want to stay and live in.
- O To achieve the policy vision, Changwon city set three goals including ①Creating a safe and convenient city environment, ②Intergenerational integration with empathy and respect, ③Healthy and comfortable aging support. Besides, we presented detailed goals and promotion projects.

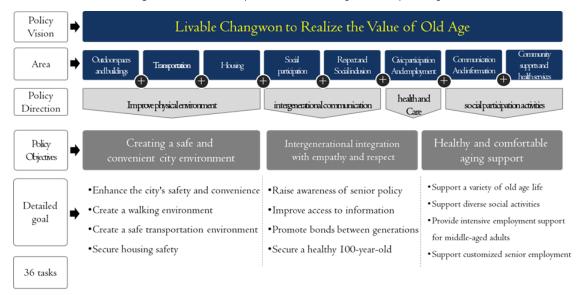


Figure 27. Vision System to Create Age-Friendly Changwon

Table 41. Goals and Projects

Goals	Detailed Goals	Project Name
		Increase the number of barrier-free buildings
		Citizen's safety insurance
	and convenience	Install smart security lights in old detached houses
Create a safe and	Create a walking	Daily walk project, making a neighborhood where you want to walk
convenient city	te a safe and envenient city and convenience  The control of the city's safety in Install smart sect.  Create a walking environment  Create a safe transportation environment  Secure housing safety  Positive discrimination of the city of centers.  Projects for the city of old age life  Secure a healthy and respect  Secure a healthy 100-year-old  Support a variety of old age life  Support diverse social activities  Provide intensive employment support for middle-aged adults  Support customized senior employment  Enhance the city's safety in Install smart sect.  Create a walking environment  Create residential Bring local empthousing  Refine the term de Projects for the city elderly leader of the city of policy.  Create an age-frice centers  Intergenerational intergenerations.  Secure a healthy 100-year-old  Secure a healthy 100-year-old  Secure a healthy 100-year-old  Implement and expression of the city was project of the city of centers.  Intergenerational mitter of centers  Intergenerational mitter o	Expand public resting spaces in the urban core
environment		Positive discrimination project for vulnerable road users
		Create residential spaces for positive discrimination
	Secure housing safety	Bring local empty homes back into use as public silver housing
	Raise awareness of senior	Refine the term dementia into Changwon type
		Projects for the enhancement of the human rights of the elderly
	Improve access to information	Create an age-friendly environment in administrative welfare centers
Intergenerational		Intergenerational integration program
Intergenerational	generations,	Establish (tentatively named)Changwon Wellaging Center
integration with empathy and		
		Promoting The Health Project near your home
	0 1 111	Home healthcare service for vulnerable social group
		sympathetic dementia
		Elderly health promotion program (Keep healthy and return youth project)
		Promotion of Gyeongnam community care pilot project
		Supply and support of AI care robots for seniors living alone
		Implement senior culture class using the office of library
		Implement new generation senior community club program for new-generation seniors
Create a safe and convenient city environment  Intergenerational integration with empathy and respect  Healthy and comfortable aging support		Establish a senior community club that brings seniors happiness and joy
		Create an age-friendly shop
		Create a park golf course only for senior
Healthy and		Implement coordinate training for silver volunteers in the office of library
	activities	Create 6 million senior employment(social activity support)
0 0 1		Implement a program to support middle-aged adults employment
		Create employment using a new middle-aged carrier and support their contribution to the community
		Develop customized employment through the senior's job competency survey
		Support age-friendly working environment
	empioyment	Implement and expand senior employment agency(senior club)
		Hold 6080 senior employment festival

## 3. Action Plan

### 1) Create a safe and convenient city environment

### ① Detailed goals and projects

- O The promotion direction to create a safe and convenient city environment is improving the safety-convenience-accessibility of the city infrastructure including outdoor spaces and buildings.
- O Enhancing the city's safety and convenience, providing walking safety, providing safe transportation, and ensuring housing safety were set as specific goals.
  - According to specific goals, a total of 8 projects are presented; increasing the number of barrier-free buildings, transportation system reform to secure the pedestrian traffic safety on the road, etc.

Table 42. Detailed Goals and Projects in Employment Area

		Per	riod	(	Sect.	
Detailed Goal	Project Name	Short- term	Long- term	New	Expansion	Implementing Dept.
Enhance the city's safety and	Increase the number of barrier-free buildings	•			V	Elderly & Disability Services Division Economic Revitalization Division
convenience	Citizen's safety insurance	•			~	Pubic Safety Division
	Install smart security lights in old detached houses	•		~		Industrial Innovation Division
Create a walking environment	Daily walk project, making a neighborhood where you want to walk	•		V		Construction & Roads Division Public Transportation Division Pubic Safety Division
	Expand public resting spaces in the urban core	•		V		Architecture & Landscape Services Division
Create a safe transportation environment	Positive discrimination project for vulnerable road users		•	V		Public Transportation Division Elderly & Disability Services Division Transportation & Logistics Division
Secure housing	Create residential spaces for positive discrimination		•			Housing Policy Division
safety	Bring local empty homes back into use as public silver housing		•	~		Housing Policy Division

## 2) Detailed Projects

## 1) Enhance the city's safety and convenience

#### 1-1-1

## Increase the number of barrier-free(BF) buildings

#### O Promotion Background

- Currently, there are 57 BF certified facilities in Changwon City, but there is no BF certified private facility.
- It is necessary to create a barrier-free environment so that there is no inconvenience for all citizens, including the disabled, the elderly, and pregnant women, to access use move in private facilities as well as public facilities.

#### O Project Overview

- Changwon-type BF certification system(public sector): Change social awareness and attract more public attention to realize BF public buildings.
- Discover and promote BF buildings among public facilities by organizing operating a public-private council to discover the Changwon-type BF certified facilities.
- Attract private buildings to obtain BF certification by granting incentives to support environmental improvement(private sector): Increase the number of BF buildings so that socially disadvantaged individuals do not see any inconvenience when using private facilities.
- Incentives are provided for small-scale shopping malls after 10 years of completion when installing BF facilities for socially disadvantaged individuals such as the disabled, the elderly, and pregnant women.

#### Expected Effect

- Improve mobility for socially disadvantaged individuals including elderly people when using public facilities.
- Create a safe and convenient environment by continuously increasing the number of BF buildings in the community.
- Improve the quality of life by creating an urban environment where all citizens can live safely and conveniently.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	Remarks
6	_	2	2	2	Public sector
2,443	1,843	200	200	200	Private sector

(Unit: million won)

#### 1-1-2

## Citizen's Safety Insurance

### O Promotion Background

- Increase in citizens' anxiety about safety after several disasters such as the Sewol ferry sank and the Pohang earthquake, etc.
- Social assistance measures are needed to secure minimum living conditions and welfare for Changwon citizens who have been victims of unexpected disasters or accidents

### O Project Overview

- For Whom : All citizens (including foreigners) who have registered as residents in Changwon City
- Details of insurance coverage and amount

Sect.	Details of insurance coverage	Amount	
Accident Injury Death	• Injury and death as a consequence of explosions, fires, collapses, landslides/robbery/natural disasters(including sunstroke and heat stroke)/accidents while using public transportation (Except children under 15 years old -Article 732 of the Commercial Act).	10 million won	
Injury after accidents	3% and 100% injuries as a consequence of explosives, fires, collapses, landslides/robbery/accidents while using public transportations	a maximum 10 million won (depending on the percentage of injuries)	
School zone injury treatment expenses	If children under 12 years old injured in school zone accidents	10 million won (depending on the degree of injury)	

<sup>▶</sup> Duplicate coverage regardless of whether or not you have insurance to cover such damage and regardless of where the accident or disaster occurs.

#### O Expected Effect

- Prepare institutional arrangements for assuring stable support when the citizens suffer from disasters and accidents.
- Contribute to creating an environment where citizens can live in peace and improving the quality of life.

(Unit: million won)

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
1,290	330	240	240	240	240

#### 1-1-3

## Install smart security lights in old detached houses

#### O Promotion Background

- Promote citizens' convenience by installing CCTV and street lighting for road safety at night.
- Implement efficient management by installing the ICT technology convergence, smart security lighting system.

#### O Project Overview

- For whom: senior citizens living in 200 crime-prone areas such as old detached houses
- Contents: Build and implement the management system of smart security lights, install smart security lights.
- Policy direction: Install at the point where the required position overlaps in each facility.
- Detailed Plan
- 2021 : Install at 50 places in one Gu(district) and build the management and operation system
- 2020 : Install throughout Changwon through effects analysis of the implementation (150 places)

#### O Expected Effect

- A decrease in maintenance costs with brightness sensor for the detection of motion.
- Crime prevention and reduction of damage, expansion of public Wi-Fi services, and improvement of citizen convenience.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
2,500	_	_	700	1,800	-

(Unit: million won)

## 2 Create a walking environment

#### 1-2-1

## Daily walk project, making a community where you want to walk

## 1 Real name system for sidewalk construction

- O Promotion Background
  - It is necessary to make construction engineers socially responsible by installing the monument after sidewalk construction.
  - High-quality improvements to the walking environment for safe walking for the elderly.

#### O Project Overview

- Install a sign indicating the construction name, construction section, period, constructor, supervisor, etc. at the start and the end points of sidewalk construction, to improve the quality of the walking environment.
- Launch a real-name system for sidewalk construction after receiving the opinion of it.

#### O Expected Effect

- Improve the pedestrian environment by preventing poor construction and giving engineers responsibilities for construction.
- Required Budget
  - Non-budget project

## 2 Construction of smart signal lights

- O Promotion Background
  - As pedestrian crossing accidents continue to occur and pedestrian crossing pattern and speed is different, it is necessary to install crosswalk facilities carefully.
  - In particular, traffic accidents increase in pedestrian crossings on the main roads and commercial areas due to the use of smart phone, so it is necessary to find ways to reduce road traffic accidents.

#### O Project Overview

- Install floor traffic lights on protected areas in Changwon city and in places that have a lot of pedestrians.
- Prevent traffic accidents by making traffic lights brighter when a pedestrian is walking at night.

 Provide convenience for pedestrians by providing signal information of floor traffic lights with self-powered traffic lights

보행자 녹색 점멸
(출력 정확도 : 000ms)

보행자 녹색 점멸
(점소등 응답 : 75ms)

(출력 정확도 : 100ms)

After

Figure 28. Example of Smart Signal Lights

#### O Expected Effect

- Ensure safe transportation with crosswalk visibility for every pedestrian and smart phone users.
- It will help to keep pedestrians safe by providing pedestrian crossing and walking services.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
90	-	90	_	_	-

#### 3 Rest areas near the crosswalk

## O Promotion Background

- Recently, the installation of sun shelter has increased for citizens' convenience in hot summer(125 already installed in Changwon City)
- Contribute to protecting citizens' health and preventing safety accidents due to heat waves by installing chairs under the sun shelter near the crosswalk along the main road of the city, a heavy traffic area.

#### O Project Overview

- Install chairs (rest areas) under the sun shelter, which has been installed and is scheduled to be installed in Changwon City.
- Longevity chairs are installed so that older adults can conveniently wait for a signal near the crosswalk in Jeju Special Self-Governing Province, Jej u-si, Namyangju Police Station, etc.
- A survey is conducted on the demand for sun shelter by eup-myeon-dong, which requires rest areas when installing sun shelter.
- Priority is given to the installation of sun shelter. The rest areas are installed sequentially around the roads that there are a lot of vulnerable road users including the elderly.

Figure 29. Examples of Rest Areas Near the Crosswalk







(Unit: million won)

#### O Expected Effect

- Contribute to preventing pedestrian accidents caused by unauthorized crossing of vulnerable road users including the elderly
- Contribute to protecting citizens' health and preventing safety accidents due to heat.

Total	Existing Investment	2020	2021	2022	After 2023
62	_	32	30	-	-

#### 1-2-2

## Expand public resting spaces in the urban core

#### O Promotion Background

- It is necessary to create a shelter in the city center so that vulnerable road users (the elderly, the handicapped, etc.) can rest while walking.

#### O Project Overview

- Relevant laws and regulations: Article 32 of the Building Laws and Article 27,
   2 of the Enforcement Decree of the Building Law, Article 34 of the Building Ordinance of Changwon City
- Target: Buildings subject to public notice
- Neighborhood living facilities of 5,000m² or more among buildings subject to committee review, apartment building, officetel
- Detailed Projects
- Active shelter construction and management in the city center with public notice.
- If a shelter is created by using public notice in the private sector, install and manage information boards for easy identification of shelter.
- Detailed Plan
- New building subject to public notice: Higher standards of rest facilities in the design review committee.
- Check the maintenance status of rest facilities and provide recommendations on complementary installation in maintenance, extension or rebuilding.
- Buildings exempt from public notice but subject to committee review: Actively encourage to install rest facilities(green space, chairs, pagoda, waterscape facilities, etc.).

#### O Expected Effect

- Enjoy a leisurely life by creating a rest area in the city center for citizens including the elderly

#### O Required Budget

- Non-budget project

## 3 Create a safe transportation environment

#### 1-3-1

## Positive discrimination project for vulnerable road users

## 1 Increase the number of low-floor buses

## O Promotion Background

- It is necessary to increase the number of low-floor buses to improve the safety and mobility of vulnerable road users, including the elderly and the disabled, who have difficulty in mobility.
- Improve the mobility of vulnerable road users by increasing the number of low-floor buses and ensuring convenient getting on and off.

#### O Project Overview

- The percentage of low-floor buses will be higher than that of general buses by continuously increasing low-floor buses every year.
- From 2020 to 2022, 100 low-floor buses increase(225  $\rightarrow$  325)
- The number of low-floor buses are more than one-third(1/3) of the total number of Changwon City buses (727 vehicles).

## [Yearly plan]

Sect.	Total	2020	2021	2022
Increased number	100	40	30	30
Total number	225→325	265	295	325

#### O Expected Effect

- Improve the mobility of vulnerable road users and attract them to public transportation.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
3,811	1,311	1,000	750	750	-

## 2 Introduce priority parking zones for senior drivers

- O Promotion Background
  - Improve the welfare of the elderly by enhancing consideration and convenience for elderly drivers who are difficult to drive to visit public facilities.
- Project Overview
  - Enactment of the local ordinance on the installation and implementation of priority parking zones for senior drivers in Changwon.
  - · Contents of ordinance

For whom	Where		Installation standard	Domarko	
For whom	Mandatory	Recommended	Installation standard	Remarks	
Seniors over 70 years old	Public institutions <sup>3)</sup>	Multiuse facilities <sup>4)</sup>	Between 2 and 4% of parking areas, Excepting parking areas below 10	Installation of parking areas, Signboard	

- Install parking area and information signs so that senior drivers who obtain a sticker can use the priority parking zones.
- O Required Budget
  - Non-budget project

## 3 Issue 'elderly person is driving' stickers

- O Promotion Background
  - As the number of traffic accidents caused by senior drivers increases, measures are needed to reduce traffic accidents caused by senior drivers.
  - As<sup>r</sup>Ordinance on the prevention of traffic accidents caused by senior drivers in Changwon City<sub>J</sub> is enacted, the sticker 'elderly person is driving(silver mark)' will be distributed.
- Project Overview
  - Distribute stickers indicating 'elderly person is driving' to senior drivers
  - For whom: Senior drivers over 70 years of age
  - Where to get: Eup · myeon · dong administrative welfare centers

<sup>3)</sup> City, direct institution, business place, facility management corporation, Cycle racing corporation etc.

<sup>4)</sup> Department stores, giant supermarkets, national and public medical institutions. For apartment houses with 100 households or more. approved as recommendations.

• How to apply: Visit the related office after verification of driver's license



- O Expected Effect
  - Enhancement of transportation culture for senior drivers
  - Reduction of traffic accidents caused by senior drivers

O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
15	_	5	5	5	-

#### 1-3-2

## Customized transportation safety education

## O Promotion Background

- An increasing need for accident prevention measures with increasing traffic accidents caused by senior drivers.
- As Ordinance on the prevention of traffic accidents caused by senior drivers in Changwon City\_is enacted, it is necessary to implement traffic safety education programs for the elderly.

#### O Project Overview

- For whom: Changwon citizens
- Where : at a place as requested by the applicants such as senior welfare center, senior class, etc.
- · Where necessary, use public institutions such as city hall and gu office
- How: Home teaching
- What: Status and behavior characteristics of traffic accidents caused by senior drivers, cases of traffic accidents caused by senior drivers, and how to take measures in case of a traffic accident.

#### Expected Effect

 Prevention of traffic accidents caused by vulnerable road users with proactive traffic safety education.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
3	_	1	1	1	-

## Secure housing safety

#### 1-4-1

## Create residential spaces for positive discrimination

#### O Promotion Background

- Elderly people prefer apartment houses for convenience and safety of life.
- Elderly preferred housing type: apartment(60.0%), detached house(35.0%), etc.
- It is necessary to improve the housing satisfaction of socially disadvantaged individuals by improving the apartment housing environment.

## O Project Overview

- Create a comfortable and pleasant housing environment for the socially disadvantaged individuals by introducing the community space that reflects the universal design within the apartment houses complex.
- Create a barrier-free healing space that includes barrier-free gardens, playgrounds, and sports facilities to make a community space for all residents, regardless of age.
- First applied to public rental and public apartment services.
- Detailed Plan: Make a request for the adoption of universal design in the project of public rental and public apartment houses, check whether or not to reflect the universal design in the business plan approval opinion

#### Expected Effect

- Increased user convenience and stability and improved quality of life for all residents including the elderly, socially disadvantaged individuals.

## Bring local empty homes back into use as public silver housing

#### O Promotion Background

- Due to the aging population, the demand for senior welfare facilities is increasing. Considering the lack of housing facilities for low income seniors, it is necessary to supply public silver housing.
- Secure residential facilities for low-income seniors and improve the surroundings by utilizing empty homes.
- Seoul city has constructed and supplied "Borin House", a public supportive housing customized to the consumer, low-income seniors living alone in underground environments, to improve the housing environment in Geumcheon-gu, Seoul.(4 houses, 56th home in total, )

Figure 30. Example of Public Silver Housing (Borin Housing, Geumcheon-gu, Seoul)





#### O Project Overview

- Target: Area with a lot of empty homes. Survey on empty homes or a vacant lot and maintenance plan completed.
- Contents: After completing empty homes survey, collaborate with LH to establish a policy for public housing such as a silver housing.
- Detailed Plan: Discuss the details of a plan with LH to bring local empty homes back into use as a silver housing for low- income seniors.

#### Expected Effect

- Improve welfare and housing environments for the elderly by supporting rents at a lower price than the prices of neighboring property.

# 4. Intergenerational integration with empathy and respect

## 1) Detailed goals and project systems

- O Basic policy purposes to improve respect for senior citizens, intergenerational integration and communication, and access to information.
- The specific goals are to raise awareness of the human rights of the elderly, improve access to information, promote bonds between generations, and secure a healthy 100-year-old.
  - 7 projects include refining the term dementia into Changwon type, promoting projects for the enhancement of the human rights of older persons, operating a service desk dedicated to seniors in administrative welfare center, etc.

Table 43. Detailed Goals and Projects for Intergenerational Integration with Empathy and Respect

		Pei	riod	S	Sect.	Implementing
Detailed Goal	Project Name	Short-t erm	Long- term	New	Expansion	Implementing Dept.
Raise awareness of	Refine the term dementia into Changwon type	•		V		Changwon Public Health Center Health Care Division
senior policy	Projects for the enhancement of the human rights of the elderly	•			V	Elderly & Disability Services Division
Improve access to information	Create an age-friendly environment in administrative welfare centers	•		~		Administration Division
Promote	Intergenerational integration program	•			•	Elderly & Disability Services Division
bonds between generations,	Establish (tentatively named)Changwon Wellaging Center		•	٧		Changwon Fire Service Headquarters Response and Prevention Division
	Implement and expand remote medical consultation service using ICT	•			•	Changwon Public Health Center
	Active Aging Health Concert Promoting The Health Project near your home	•			Health Policy Division	
	Home healthcare service for vulnerable social group	•			~	Changwon Public Health Center
Secure a healthy 100-year-old	Integrated management system for memory-enhancing, sympathetic dementia	•			V	Health Care Division
	Elderly health promotion program (Keep healthy and return youth project)	•			V	Changwon Public Health Center Health Promotion Division
	Promotion of Gyeongnam community care pilot project	•			V	Social Welfare Division
	Supply and support of AI care robots for seniors living alone	•		~		Elderly & Disability Services Division

## 2) Detailed goals and projects

#### 1) Raise awareness of the human rights of the elderly

#### 2-1-1

## Refine the term dementia into Changwon type

#### O Promotion Background

- A dementia means 'foolish' and causes negative perceptions and a lot of challenges of early diagnosis and treatment in the dementia management program.
- It is necessary to refine the term because we regard other and different diseases caused by cognitive decline seen with aging as dementia in many cases.

#### O Project Overview

- Contents: Refine improve the term dementia & promotion project to raise the awareness
- Plan
- Refine improve the term dementia: Use the existing term 'dementia' for formal dementia-related projects, but change it to "cognitive disease" in promotion projects for citizens.
- Minimize the use of the term "dementia" in program and promotion for early examination and medical checkups: Change the term into familiar 'memory-enhancing' 'memory refresh' and 'memory keeping', etc. (ex. Memory Keeping medical checkup, etc.)
- Strengthen promotional activities such as daily lectures, campaigns, and advertisements throughout the year.

### O Expected Effect

- Contribute to the active use of existing dementia relief centers and programs by reducing negative emotions that seniors may experience there.
- Overcome dementia-related stigma and prejudice and build a social consensus that we are to live together.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
15	_	5	5	5	_

## Projects for the enhancement of the human rights of the elderly

## O Promotion Background

- While the older population continues to grow, senior citizens face challenges such as senior abuse caused by nuclear family, defamiliarization of the elderly, and a conflict between generations, etc.
- It is necessary to carry out public educations on elder abuse for general citizens and strengthen the duty to protect the human rights of the elderly in welfare facilities.

#### O Project Overview

- Education for senior abuse prevention & protection of human rights

Sect.	Senior welfare facilities (excepting senior community club, senior class	In-home long-term care facilities (excepting overlapped, closed facilities)	Senior welfare center	Senior employment support organization
Number of facilities	65	26	(7)	(5)
To Whom	Manager, employee (the person in charge)	Manager, employee (the person in charge)	volunteers, etc. citizen	volunteers, etc. citizen
How	<ul> <li>In house training(5 times for each gu)</li> <li>Collaborate with the Gyeongnam Elder Protection Agency</li> <li>Cyber class(Yearly, more than once)</li> <li>Korea Human Resource Development Institute for Health &amp; Welfare</li> </ul>		the year) -Supervised by the h Manager, employee	any time throughout lead of an organization e Training elfare facility education

- Implement Human Rights Protector Group for the Aged in elderly nursing facilities: 21 facilities/ 20 people
- Appoint an honorary advisor for senior welfare, make regular monitoring visits for elderly nursing homes: Eliminate human rights violations in advance.
- Conduct OJT training for the human rights protectors of the elderly(Once a year).
- Support activity cost of human rights protectors for the aged : 20 thousand one once.
- Detailed Plan
- Discuss the schedule of itinerant education for human rights protection by gu office with the Gyeongnam Elder Protection Agency.
- Evaluate and take follow-up actions for the activities of human rights protectors of the elderly in elderly nursing homes.

## O Expected Effect

- Realization of age-friendly city where senior citizens feel respected and their quality of life is improved.

2021

4

- Protection and promotion of the human rights of the elderly.

2020

3.6

## O Required Budget

Total

15.6

Existing

Investment

2022	After 2023

4

(Unit: million won)

4

## ② Improve access to information

#### 2-2-1

## Create an age-friendly environment in administrative welfare centers

#### O Promotion Background

- The majority of administrative welfare center visitors are senior citizens and socially disadvantaged individuals.
- In preparation for the rapidly progressing trend of an aging society, it is necessary to improve the senior's satisfaction in public institutions by arranging the civil service helper and convenience goods for the elderly.

#### O Project Overview

- Provide efficient and effective public services using volunteers or public good service members as a civil service helper(help senior citizens to fill in the forms, etc.)
- · Arrange a civil service helper according to the situation of eup, myeon, and dong.
- First applied to Eup, Myeon, and Dong administrative welfare centers that have relatively rapid aging rate and the large elderly population.
- Contents
- Civil service helper service: Help senior citizens to fill in the forms, visit senior community clubs and provide various public information customized to senior citizens.
- Convenience goods for the elderly: chairs, stick hangers, etc.
- Detailed Plan
- Expand to Eup, Myeon, and Dong that has a relatively rapid aging rate and the large elderly population.
- Review the employment of a civil service helper using public work projects, etc.

#### O Expected Effect

- Develop a positive discrimination culture including the elderly by a civil service helper service.
- Increase the senior's satisfaction with the information provided by public institutions and encourage senior citizens to participate in the city administration.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
5	_	5	_	_	-

## ③ Promote bonds between generations

#### 2-3-1

## Intergenerational integration program

#### O Promotion Background

- A cultural gap and heterogeneity are prevalent across generations due to a rapid development of science and technology.
- It is necessary to make a program for intergenerational communication and integration.

#### O Project Overview

- Increase and promote quality intergenerational opportunities that are mutually beneficial in the senior welfare center.
- Implement and expand anti-ageism education and training: for example, youth culture class and education such as smart phone, SNS, cyber games, etc.
- Establish a coordinated and collaborative approach to engaging middle·high·universities and youth-focused organizations in intergenerational activities.
- 「Senior life experience program」that gives opportunities to experience a social life of older people in person.
- Provide experience booths at public events such as volunteers competition, sponsorship nights, etc.
- Progress monitoring, measurement of performance, and feedback.

## O Expected Effect

- Create a community mood where 1st and 3rd generations enjoy the same cultural life for intergenerational communication and integration.
- Provide a place of exchange to reduce and overcome the generation gap.

#### O Required Budget

- Non-budget project

# [Intergenerational integration program]

Organization Name	Program Name	Period	Participants	Number of Participants	Program Description	Remarks
Uichang senior	Summer youth volunteer experience class	Aug	youth	10-20	First-third generation sympathy program (smart phone education)	
welfare center	First-third generation trainee exchange program	Jan, July	university students	about 10	First-third generation exchange program	
Seongsan	First-third generation go class	Jan. 13, 2020 Jan. 15, 2020 (July)	youth senior	30	Intergenerational friendly go match	
senior welfare center	Social welfare field trainee planning program	Jan. 23, 2020 (July)	trainee senior	45	Traditional folk game together with trainee	
	youth volunteer "smart phone helper"	Jan. 7, 2020 (July)	youth senior	50	Question and answer how to use smart phone	
	First-third generation sympathy 'exciting taekgyeon' program	Aug	youth	30	Exciting taekgyun experience	First-third generation integration
Masanhappo senior welfare center	'Ask anything on your smart phone'	Jan, Aug	youth	10	Education on the use of smart phone (1:1 question and answer)	"
	IT education 'advanced 2nd class'	Fed~June Aug-Dec	senior	17	Education on the use of smart phone	Education class
	Intergenerational symphony	Excercise once a week	senior children	total 100 -1st 70 -3rd 30	Chorus practice community talent donation concert	
Masanhoiwon senior welfare center	Magic pipe program	second half	senior (lecturer) children	total 820 -lecturer 20 -trainee 800	Humanities education History education Visiting historic sites	
	Value of Together (First-third generation sympathy education)	second half	senior youth	total 40 -1st 20 -3rd 20	Tea manner Home baking IT education	
Jinhae senior welfare center	Green light (Intergenerational good feeling program)	2020.7.1.~7.31	senior youth	30	-Talk concert to raise intergenerational awareness -Sharing the use of a digital device	
	Tea generation class	Sept -Dec	children in daycare centers	320	-Visit daycare center, child tea class -Seniors donate talents to	
			seniors in tea class	10	children through tea and etiquette education, etc.	
Jinhae west senior welfare	Dance comes from joy	July-Nov	youth members from the Youth Hall	7	-Select 7 seniors and 7 youth interested in dance -Senior and youth dance practice	
center			senior	7	-Community talent donation dance performance	
			child and youth	50	-1st stage: Seniors dressed as Santa present gifts to daycare	
	Happy christmas	Dec 24	senior living alone	22	center children -2nd stage: Santa dressed youth present gifts to seniors living alone	
Kumkang senior culture center	Using smart phone smart	Feb, Aug	senior(univ ersity students, youth	15	Education on the use of senior smart phone (with youth and university students as assist lecturers)	
Kumkang senior culture center	Collaborate with family voluntary service for seniors living alone "Family is out"	Feb-Dec	senior living alone family volunteers (parents-c hildren)	50	Matching family volunteers(parents, children) to seniors living alone, recreation, program to improve social networks of seniors living alone, etc.	Supported by the Gyeongnam Community Chest of Korea

# [Senior Life Experience Program]

Organization Name	Program Name	Period	Number of Participants	Operation method	Program Description
Masanhappo senior welfare center	youth volunteer experience class	Aug	10	Direct	Senior similar experience and training to raise awareness
Masanhoiwon	Hi bye my youth	July	200	Direct	Experience self-portrait program of you as being older Think of you as being older Aging sympathy training
senior welfare center	1st anniversary event	July	500	Outsourcing	Experience center for senior's life
	Sharing bazaar	Oct	2,000	Outsourcing	Experience center for senior's life
Jinhae senior	Welfare center 15th anniversary event	May, Aug	600	Outsourcing	Install experience booth
welfare center	Senior festival	Nov. 13	500	Outsourcing	Install experience booth
Jinhae west senior welfare center	Education on senior volunteers for youth	Aug (during vacation)	20	Direct	-senior volunteer training -senior similar experience
	Changwon welfare expo	June	N	Direct	-Install welfare center promotion booth and experience booth
Kumkana Sanior	Party of love for parents	May	400	Direct	-Install experience booth
Kumkang Senior Welfare Center	Love sharing bazaar	June	300	Direct	-Bazaar goods sales and exchange booth
	6080 Senior Hanmadang festival	Sept	N	Direct	-Welfare center employment-related promotion booth

#### 2-3-2

## Establish(tentatively named)Changwon Wellaging Center

## O Promotion Background

- The general public has a lack of empathy for the physical and psychological characteristics of the elderly, causing inconvenience to the life of the elderly without their knowledge.
- Elderly people are vulnerable to physical damage due to age-related degradation.
- Make youth to experience the life of the elderly in person to improve intergenerational empathy.

## O Project Overview

- Install the well aging experience hall and implement programs in the Changwon safety experience hall.
- Implement the senior's life and dementia experience programs.
- Raise awareness of the elderly through life experience education for the elderly.
- Raise public awareness of dementia by experiencing the psychology of seniors with dementia.
- Implement silver safety experience programs
- Implement a program specialized for outdoor safety of the elderly and safety accidents that may occur depending on transportation means when going out.

#### Expected Effect

- It is possible to raise public awareness of socially disadvantaged individuals, positive discrimination and comprehensive consideration all over the city.
- Contribute to a safe and healthy society by preventing safety accidents for seniors in preparation for the rapidly progressing trend of an aging society.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
23,600	_	-	-	1,000	22,600

## 4 Secure a health 100-year-old

#### 2-4-1

## Implement and expand remote medical consultation services using ICT

#### O Promotion Background

- Chronic diseases continue to increase due to population aging and lifestyle changes.
- Provide systematic health care services for residents living in the community and having difficulties in daily life due to illness, etc. and reduce socio-economic disease burden.
- It is more necessary to integrate the primary health care sites and expand services according to technical development such as IT technology and medical imaging storage, electronic picture archiving and communication systems.

#### O Project Overview

- For whom: Patients\* who are considered to be able to care health through remote consultation and returning patients\*\* who already have medical records as chronic patients in medically vulnerable areas(Dong-eup, Buk-myeon, Daesan-myeon).
- \* chronic patient, dementia patient, a person who needs rehabilitation.
- \*\* Patients who have been diagnosed by a doctor at a local medical institution participating in a remote consultation.

#### - Promotion model

#### [Model 2] Public health center-health care [Model 4] Doctor-visiting nurse remote center remote consultation Doctor(public health center) ←public health officials in consultation Doctor(public health center)↔visiting nurse health care center) 워격지 의사 자무 제공 자문 제공 Actual Actual Remote Remote Dong-eup health care center Dong-eupbranch office of public health (doctor) → Bongganghealth care center (Government center Buk-myeon branch office of public health employee in health care center) center · Daesan-myeon branch office of public health Buk-myeonbranch office of public health center ↔ visiting nurse center(doctor - Dongjeon health care center(Public health official)

#### - Contents

- Provide customized health services through consultation between doctors and nurses with the imaging equipment.
- Existing nursing services for patients under remote consultations → Expand to physical therapy services.
- Expand visiting teams in teams of two(nurse, physical therapist) and physical therapy equipment.
- Provide 1: 1 customized health care service (counseling, health education, nursing, etc.) for each patient through periodic monitoring of health information (blood pressure, diabetes, etc.).

#### Expected Effect

- Reduce the socio-economic disease burden for residents in medically vulnerable areas.
- Improve medical accessibility to eliminate blind spots and strengthen public healthcare service.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
364	55	102	103	104	-

## Promote Active Aging Health Concert & The Health Project Near Your Home

## O Promotion Background

 In preparation for entering an aged society, it is necessary to provide various health information and improve health care capabilities for healthy living for middle-aged and aged people.

#### O Project Overview

- 1 Active Ageing health concert

• For whom: 1,000 citizens

• Where: Changwon Public Health Center

• Detailed Projects: Health class(disease thema) and activity class(in collaboration with health classes, physical activity and living culture program)

- 2 THE health project near your home

• For whom : 500 citizens

• Where: Uichang Seongsan senior welfare center

• Detailed Projects: Provide health class for each disease and implement the confident senior health booth to provide health information

#### O Expected Effect

- Contribute to health life extension by providing various health information to middle-aged and aged adults so that they can improve self-care ability.
- Encourage senior citizens to have a healthy lifestyle in daily life by providing health information on diseases, health-determining factors, and various activities and programs.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
34	6	7	7	7	7

## Home health care services for vulnerable social groups

## O Promotion Background

- Increased socio-economic burden due to an increase in chronic diseases with aging.
- Increased demand for providing various health care services centered on the community.

#### O Project Overview

- For whom: Vulnerable social group including seniors living alone, the disabled, chronical patients, etc.
- Contents: Improve health behavior, manage chronic diseases and prevent complications for vulnerable social groups.
- Detailed Projects
- Collaborate with the heath care welfare to provide personalized visit health care services.
- Support medical expenses of low-income class and senior vision correction projects.
- Health education and self-help meetings for in-home cancer patients and their families.
- Provide health news and notification preparing for heat and cold weather.
- Plan
- Small group-oriented health programs, health education, etc.
- Implement and expand residents' self-governing public service projects through strengthened collaboration between health and welfare.

#### Expected Effect

- Improve the health level of vulnerable social groups through preventive health care and prevention of complications in the elderly.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
6,068	1,319	1,178	1,187	1,192	1,192

## Integrated management system for memory-enhancing, sympathetic dementia

## O Promotion Background

- It is necessary to implement the dementia prevention program to respond to increased demand with the rapid increase in a senior population.
- It is necessary to provide correct information and promote a preventive program to raise public awareness of dementia.

#### O Project Overview

- For whom: Changwon citizens
- Contents: Implement and expand the dementia preventive program and a public awareness campaign
- Detailed Projects
- Provide correct information about dementia, promote and implement dementia prevention 3.3.3 rules, preventive stretching, and workbook service, etc. to enhance cognitive ability.
- Implement dementia prevention programs by visiting senior community clubs, welfare centers, and administrative welfare centers.
- Promote daily lectures and campaigns to raise public awareness.

#### Expected Effect

- Reduce the risk of developing dementia by enhancing cognitive abilities and improve the quality of life for residents.
- Prevent dementia in daily life and raise positive awareness of dementia.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
1,200	300	300	300	300	_

# Elderly health promotion program (keep healthy and return youth project)

#### O Promotion Background

- To solve health inequality, it is required to implement a health promotion program through collaboration with local communities in vulnerable areas.
- (Current status) Polarization of benefit has set in health programs depending on accessibility.
- Provide senior customized health promotion program services to make an age-friendly city.

## O Project Overview

- For whom: Changwon citizens over 65 years of age
- Contents: Resident-driven physical activity projects and senior physical activity programs
- Detailed Projects
- 9988 senior rhythm and exercise class to increase muscle strength: Senior customized exercise program considering the physical strength and psychological status of seniors (once a week)
- Youth exercise class: Thirty regional youth excercise classes are open in Changwon. Itinerant education by athletic trainers.
- Silver recreational sports university : A table tennis, yoga and health course program using the Changwon City Sports Center
- Detailed Plan
- Discover new senior community clubs and foster village athletic trainers.
- Expand the fall prevention exercise class to increase muscle strength.
- Collaborate with administrative welfare centers to open senior exercise classes in each village unit.

#### O Expected Effect

- Establish the senior health care system led by residents through collaboration with the community.
- Increase the level of regular physical activity of seniors to improve muscle strength and stamina.

- Ensure healthy and livable old age.

# O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
126	27	31	33	35	_

## Promotion of Gyeongnam community care pilot project

#### O Promotion Background

- In preparation for entering an aging society, a foundation is needed for the senior to enjoy healthy old age in the community, not in hospitals or facilities.
- There is a need to provide various integrated services such as public and private health, welfare, and care, etc.

#### O Project Overview

- For whom: Seniors, the disabled, and mental patients people who have care and support needs to live in the community.
- Contents: Provide integrated services such as health, welfare, medical care, and residential care to people who have care and support needs.
- Detailed Projects
- Provide care information service in dong-eup administrative welfare centers.
- Community care promotion group : Public and private consultative organizations under the leadership of deputy mayor.
- Public-private partnership: Monitoring and consulting of business progress and the role of local care meeting.
- Open community care centers.

#### - Plan

- Discover new senior community club and foster village athletic trainers.
- Expand the fall prevention exercise class to increase muscle strength.
- Collaborate with administrative welfare centers to open senior exercise classes in each village unit.
- Promote pilot projects including health·welfare·medical·care·housing, etc. : total 19 projects.
  - ① Housing support(2): housing environment improvement project and 1 other project
  - ② Senior dementia care (2): dementia senior visit collaboration project and 1 other project

- 3 Welfare medical support(4): Public health center medical vulnerability area support and 3 other projects
- 4 Nursing care support(5): Changwon-type housework and caring project and 4 other projects
- ⑤ Mobility support(1): Outdoor activity support project
- ⑥ Life support(4): Household goods support and recycling project and 3 other projects
- The Healthcare (1): Village branch of community healthcare facilities

#### O Expected Effect

- Contribute to improving the quality of life of care recipients by providing services customized to individual needs.
- Improve the sentiment index for welfare by reducing the burden of care giving by informal care-givers(family, women).
- Improve local settlement conditions and revitalize local communities by establishing the integrated care system centered on the community.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
66.8	26.8	20	20	_	_

## Supply and support of AI care robots for seniors living alone

## O Promotion Background

- The percentage of seniors living alone is 23.9% among one-person houses in Changwon City, which is increasing every year.
- Provide integrated care services such as life convenience and safety checks for vulnerable social groups (senior living alone, the disabled) using ICT.

#### O Project Overview

- For whom: 200 households of vulnerable social groups who have social care and support needs including the disabled, senior living alone, etc.

#### - Contents

- Supply ICT care robots using AI, IoT sensors to the household of seniors living alone and the disabled.
- Coordinate with related services such as consultation and visit services of care managers.

#### O Expected Effect

- Provide various information such as health and danger, etc. to seniors living alone and provide someone to talk to help seniors with depression.
- Provide daily life support, such as meals, medications, exercise reminders, someone to talk as well as falls prevention services for seniors living alone.
- Provide effective response in the event of an emergency under collaboration with local emergency services (119 rescues, etc.).

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
57	_	57	-	-	_

# 5. Healthy and comfortable aging support

## 1) Detailed goals and project system

- O This area aims to offer opportunities for senior citizens including baby-boomer and middle-aged older adults to continue to contribute to their communities through economic and social activities.
- The detailed goals include the support for old age life, increase volunteer opportunities, provide intensive employment support for middle-aged adults, and support customized senior employment.
  - According to the detailed goals, 8 projects were presented; increase the lifelong education, create age-friendly stores, and support social contribution activities, etc.

Table 44. Detailed Goals and Projects for Healthy and Comfortable Aging Support

		Per	iod	5	Sect.	Implementing
Detailed Goal	Project Name	Short- term	Long-t erm	New	Expansion	Dept.
	Implement senior culture class using the office of library	•			~	Uichang Office of Library
	Implement new generation senior community club program for new-generation seniors	•			\ \	Elderly & Disability Services Division
Support a variety of old age life	Establish a senior community club that brings seniors happiness and joy	•			~	Elderly & Disability Services Division
	Create an age-friendly shop		•	~		Economic Revitalization Division
	Create a park golf course only for senior				\ \	Sports Promotion Division
	Implement coordinate training for silver volunteers in the office of library	•		~		Uichang Office of Library
Support diverse social activities	Create 6 million senior employment(social activity support)	•			~	Elderly & Disability Services Division
Provide intensive	Implement a program to support middle-aged adults employment	•			~	Job Creation Division
employment support for middle-aged adults	Create employment using a new middle-aged carrier and support their contribution to the community	•			~	Job Creation Division
Support customized	Develop customized employment through the seniors job competency survey	•		>		
	Support age-friendly working environment		•	~		Elderly & Disability
senior employment	Implement and expand senior employment agency(senior club)	•			~	Services Division
	Hold 6080 senior employment festival	•			~	

## 2) Detailed Goals and Projects

## ① Support a variety of old age life

# 3-1-1 | Implement senior culture classes using the office of library

#### O Promotion Background

- As healthy and highly educated baby boomers enter into old age, it has created an increased command for differentiated education programs from the existing senior community clubs or senior welfare centers.
- It is necessary to create new hobbies and leisure activities using the office of library in Changwon city.

## O Project Overview

- For whom: Citizens over 60 years of age
- Contents: Open a senior creative class and a senior lecture to share their talents.
- Detailed Plan: Plan the senior class every year through a preference survey for senior culture classes.

#### O Expected Effect

- Contribute to society as a healthy citizen through active and intellectual leisure activities.
- Provide lifelong education opportunities through the customized courses for senior generations.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
9	2.8	2	3	-	-

# Implement new generation senior community club programs for new-generation seniors

#### O Promotion Background

- It is necessary to change the function of the senior community club to meet the needs of new generation seniors with the increased command for programs tailored to their quickly changing needs as the older population is increasing rapidly.
- It is necessary to create a senior community club that allows senior citizens to participate in social activities and contribute to their communities. That is, it is necessary to promote resources and tools that support the senior community club to better serve senior citizens as a cultural welfare space, not just as a shelter.

#### O Project Overview

- Special support for leisure programs according to the senior community club size.
- Small(100m² or less): Rest area, social gathering space, small class
- Medium(100m² or more): Create an open space where seniors and residents can communicate with each other.
- Implement various education programs suitable for new generation seniors
- Assist volunteer institutions organizations to promote volunteer opportunities through collaboration with senior community club programs.
- Promote as a part of the "senior community club revitalization project implemented by each senior branch in Changwon city.

#### O Expected Effect

- Induce changes in the function of senior community clubs to meet the needs of new generation seniors.
- Improve user satisfaction through link programs to meet the various needs of seniors.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
175	-	175	_	_	-

## Establish a senior community club that brings seniors happiness and joy

## O Promotion Background

- It is necessary to expand senior leisure and welfare facilities in poor areas where there are no senior community clubs.
- It is necessary to promote accessible social space for senior citizens to gather informally in leisure and welfare facilities.

## O Project Overview

- 7 new senior community clubs

Project Name	Location	Project Scale	Total Cost	Resources
New construction of Ungnam-dong senior community club	Ungnam-dong, Seongsan-gu	Ground Floor Total floor area 90m²	340	Province 100 City 240
New construction of Dong-eup Gagok senior community club	456 Bonpo-ri, Dong-eup, Uichang-gu	Ground Floor Total floor area 90m²	400	Province 200 City 200
New construction of Gyobang Namseong senior community club	287-11 Gyobang-dong, Masanhappo-gu	Ground Floor Total floor area 80m²	580	Province 200 City 380
New construction of Hapseong 2-dong The 3rd senior community club	157-4 Hapseong 2-dong, Masanhoiwon-gu	Ground Floor Total floor area 90m²	660	Province 300 City 360
New construction of Guam 1-dong senior community club	19,20, Guam 1-dong, Masanhoiwon-gu	Ground Floor Total floor area 90m²	650	Province200 City 450
New construction of Yangdeok 2-dong 4 section senior community club	Yangdeok 2-dong, Masanhoiwon-gu	Ground Floor Total floor area 90m²	650	City 650
New construction of Jungang-dong west area senior community club	Jungang-dong, Jinhae-gu	Ground Floor Total floor area 90m²	600	Province 200 City 400

## O Expected Effect

- Improve the quality of life in old age by providing a space for leisure activities and social gathering.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
3,880	_	3,880	_	-	_

## Create an age-friendly shop

#### O Promotion Background

- As the purchasing power of senior citizens has increased in recent years, it is necessary to create a store where they feel comfortable and visit frequently.
- Reflect the trend of the elderly who continue to shop at smaller retail stores and favorite stores.

#### O Project Overview

- Location: 2 traditional markets in Changwon City.
- Contents
- Create a market in the area where many elderly people live as an age-friendly store.
- Improve store environment by installing signboards and notices, providing goods (stick hanger, magnifying glass, etc.), and solving stair gap removal.
- Detailed Plan
- Select a traditional market promoting projects for age-friendly stores: 'Jan. 2021.
- Conduct training and consulting for selected shops including the Market Merchant Association: Feb. 2021.
- Monitor changes experienced by residents and project-participating stores:
   June 2021.
- Designate age-friendly stores based on voluntary participations of stores:
   July 2021.
- Detailed Plan: Review plans through monitoring for pilot projects to create an age-friendly store

#### O Expected Effect

- Create an age-friendly community that wants to live in and stay as they age.
- Enhance customer satisfaction with personalized service according to different types of customers.

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
40	_	-	20	20	-

## Create a park golf course only for senior

## O Promotion Background

• It is necessary to create and expand facilities for park golf, a senior preferred sport, with the growing elderly population.

#### O Project Overview

- Where: 139-8, Bukbu-ri, Daesan-myeon, Uichang-gu

- Contents: Construction of waterfront sports park A=60,000m<sup>2</sup>

• Construction of park golf zone with 36 holes, sports facilities, rest areas, etc.

#### O Expected Effect

- Provide a space for all family members by creating public sports facilities for people of all ages.
- Promote leisure and physical fitness of seniors through a culture of sports for life.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
2,420	570	850	1,000	-	_

## 2 Support diverse social activities

#### 3-2-1

## Implement coordinate training for silver volunteers in the office of library

#### O Promotion Background

- Support baby-boomer generation to enjoy cultural activities after retirement.
- Provide opportunities for senior citizens to participate in social activities and gatherings for healthy aging.

#### O Project Overview

- For whom: Citizens aged over 55 years of age
- Where: Uichang Office of Library
- Contents: After training for silver volunteers, appoint silver applicants as volunteers in the office of library.
- Provide OJT in the office of library including the Korean Decimal Classification, Choosing Good Books, and Story-telling, etc.
- Provide education to cultivate volunteering mind such as Humanities and Corporate Social Responsibility, etc.

#### O Expected Effect

- Establish desirable social roles and achieve self-fulfillment through volunteer activities.
- Help senior citizens eliminate the feeling of alienation and deprivation after retirement by providing opportunities for social participation

#### O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
2	-	2	-	-	-

#### 3-2-2

## Create 6 million senior employment(social activity support)

#### O Promotion Background

- It is necessary to ensure a stable old age life such as social participation and income increase through employment.
- It is necessary to improve the quality of life for the elderly by encouraging them to enjoy respect and esteem through high-quality employment.

#### O Project Overview

- For whom: Those aged 65 or older are eligible for the basic pension or seniors aged 60 or older.

#### - Contents

Public services	NonoCare, park guide, public facilities service, cycle learning, vulnerable social group support, etc.
Market	Silver cafe, sending lecturer, natural soap, local news notification, recycling business group, etc.
Social service	Support for vulnerable social groups and care facilities, such as local child centers and child care facilities
Manpower	Health and medical services, restaurant assistants, mail carriers, gas station employees, landscapers, etc.
Internship	Senior internship, jobs as staff dedicated, support for the cost to obtain certificates, etc.

#### - Detailed Plan

- Promote employment projects such as public services and market : 55,000
- Expand market type projects such as silver cafes(20 places) : currently 19 places  $\Rightarrow$  39 places
- Investigate new and innovative methods(employment link, etc.) to reach senior citizens who want to work, and connect them with employment supports (business, guard, gas station, etc.) : 5,000
- Implement job counseling for senior job seekers: Visit counseling in Eup,
   Myeon, and Dong twice a month and twice visit consultation and employment link support
- Expand senior internship business support and employment program.

## O Expected Effect

- Contribute to a lively and healthy old life of senior citizens through participation in social activities.

## O Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
169,318	42,330	35,877	42,299	51,962	_

## ③ Provide intensive employment support for middle-aged adults

## 3-3-1 Implement a program to support middle-aged adults employment

#### O Promotion Background

- It is necessary to prepare customized measures for successful middle-aged life design to respond to social changes and prepare for retirement.
- It is necessary to implement customized programs for job seekers and retirees for continuous support.

#### O Project Overview

- For whom: Middle-aged job seekers as residents in Changwon
- Contents: Job training projects for the successful employment of middle-aged/older citizens.
- Period : April 2020 December
- For whom: 200 (Middle-aged women on a career break as residents in Changwon city)
- Contents : 5 courses (Construction, machinery and equipment, office management, food, etc.)

#### O Expected Effect

 Restore the local economies and stabilize the household life by increasing household income and revitalizing domestic demand by helping unemployed and job seekers.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
620	500	120	_	-	_

#### 3-3-2

# Create employment using new middle-aged carrier and support their contribution to community

#### O Promotion Background

 It is necessary to support the new middle-aged adults that have professional knowledge and job skills so that they can successfully adapt to retirement.
 Offer opportunities for the new middle-aged adults to continue to contribute to their communities and maintain household income through paid employment and volunteerism after retirement.

#### O Project Overview

- For whom
- Prepared by: Organizations with expertise and human resources for social contribution activities
- ①(Preliminary) Social enterprise ②Social cooperative ③Public (administrative) organization ④Non-profit corporation/group
- Participated by : Only applicable to social contribution projects(institutions where participants are working)
- ① (Preliminary) Social enterprise ②Social cooperative ③Public (administrative) organization ④Non-profit corporation/group
- Participants: Unemployed people aged between 50 70 years
- ①3 years' experience(Carrier employment project: more than 5 years' experience) ②Qualification ③Education and training course completed
- Contents
- Support the employment projects utilizing the career and expertise of new middle-aged adults after evaluation
- Support new middle-aged adults so that they can contribute to society by
  offering opportunities to continue to work in social enterprises and non-profit
  organizations using their knowledge and experience.
- Support Details: Indirect subsidies or consigned operating expenses
- Labor cost(career employment), participation allowance and actual expenses(social contribution), utility fees, office rental, office equipment rental, promotional cost, purchase cost of consumables, staff training expenses, etc.

## O Expected Effect

- Offer social contribution opportunities for the second life design of retired professionals.
- Increase the professionalism of non-profit organizations and social enterprises through the use of professional personnel.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
Total	657	1,421	_	_	_
Career Employment	577	1,305	_	_	-
Social contribution	*80	116	_	_	_

## 4 Support customized senior employment

#### 3-4-1

## Develop customized employment through senior's job competency survey

## O Promotion Background

- Improve databases of senior employment for effective management of job seekers and employers.
- It is necessary to find a suitable job-worker match through effective management of job seekers' desired jobs and working conditions.

## O Project Overview

- For whom: 2 offices for creating jobs for seniors (Masan, Changwon)
- Contents: Build job search DB, registration and management of job seekers (employers), matching results, post management, etc.

#### O Expected Effect

- Increase the employment rate of seniors in Changwon through job matching between job seekers and employers.
- Develop new business fields based on statistical data of job seekers and employers using the senior employment DB.

#### O Required Budget

- Non-budget project

## Support age-friendly working environment

#### O Promotion Background

- It is necessary to abandon existing policy for senior recruitment and create a working environment where seniors feel respected and joyful.

#### O Project Overview

- Period : After 2022

- For whom: Those aged 65 or older are eligible for the basic pension or seniors aged 60 or older
- Contents
- Develop and supply senior customized products(working clothes, furniture, etc.) design.
- Use a larger font for work instructions and safety signs.
- Focus on public sector employment(Cleaning, transportation safety guide, school lunch helper).
- Detailed Plan
- Guide each organization or institution to make senior's working clothes(vests) in fluorescent colors.
- Guide each organization or institution to use a larger font for work instructions and safety signs. senior employment.
- Improve the working environment of silver cafe workers(Change coffee cups, glasses, etc. into light materials, expand indoor lights, and install an anti-skid device, etc.).
- Implement the education on the human rights of the elderly for the organization, participants and staff involved in the senior employment project once a year.
- Detailed Plan: Check and evaluate action plans to improve the working environment with the organizations executing senior employment projects(20 places) and participants in senior employment projects.

#### O Expected Effect

- Improve the work environment and the satisfaction in social activities of senior citizens.
- Provide correct understanding and increase interest in the human rights of the elderly.

#### Required Budget

- Non-budget project

## Implement and expand senior employment agency(senior club)

#### O Promotion Background

- It is necessary to meet the needs of senior welfare and respond to the challenges of rapid population aging.
- It is necessary to create a Changwon-type age-friendly employment by expanding and senior employment agencies.

#### O Project Overview

- Location: 7 places, including one in 4-1, 50 gil, Uian-ro, Uichang-gu.
- Project Scale : 7 places (Expand from the existing  $5 \rightarrow 7$  places)
- Senior club: 1 (3→5 clubs) for each gu ※ Seongsan · Masanhoiwon-gu designated additionally.
- Office for creating jobs for seniors: 1 in Seongsan-gu 1, 1 in Masanhappo-gu.
- Detailed Projects
- Develop and distribute customized senior employment that fits senior abilities and aptitudes.
  - → Job arrangement(counseling), re-employment training, employment experience, accompanying interview, senior internship, follow-up management
- Discover specialized local projects with high sentiment index and expand high quality employment.
  - → Changwon type employment(Nubija bicycle maintenance, etc.), Operate market-type business group (silver cafe, apartment delivery, etc.)

#### - Detailed Plan

- Designate two additional senior clubs: From October to December 2019.
- Open 2 new senior clubs: From January to February 2020.
- Recruit and select participants in the 2020 senior employment project
   From January to March 2020.
- Implement the job arrangement(counseling), re-employment training, follow-up management: From January to December 2020.

## O Expected Effect

- Create employment for senior citizens and establish a comprehensive support system for income support in preparation for an aging society.
- Promote reemployment opportunities for seniors and ensure that seniors have enough to live on through a sense of self-esteem.

(Unit: million won)

Total	Existing Investment	2020	2021	2022	After 2023
7,010	1,160	1,950	1,950	1,950	_

## Hold 6080 senior employment festival

#### O Promotion Background

- It is necessary to support a vibrant leisure culture by providing employment counseling and job search information to senior citizens.
- Resolve employment issues for the elderly by holding the senior employment job fair event for senior job seekers.

## O Project Overview

- Period: June, 2020(expected)

- Number of participants: 1,000 people(seniors over 60 years of age)

- Scale: 50 booths(recruit 15, experience exhibition service 35)

- Hosted/sponsored by: Changwon city / Masan office for creating jobs for seniors

- Contents: Job counseling, job link, senior employment promotion booth, etc.

Sect.	Event description
Employment	Employment counseling(field interview), resume interview image consulting, job board
Experience	Senior product making experience, senior job experience, etc.
Exhibition and Sale	Promotion of senior employment agencies, exhibition, promotion and sales of senior products
Service	Free resume photo, health service consultation, etc.

#### - Detailed Plan

- Organize the social activity festival private TF team(hosting institution).
- Recruit participating companies and booth operating organizations (groups).
- Establish implement the social activity festival event detailed action plan.
- Promote social activity festival (press, city newsletter, banner posting, etc.).

#### O Expected Effect

- Contribute to the promotion of an efficient and systematic senior policy by supporting age-friendly elderly life.

#### Required Budget

Total	Existing Investment	2020	2021	2022	After 2023
272	62	70	70	70	-

# V. Administrative Items

- Action Plan Construction Schedule following registration with WHO Age-Friendly
   City Network Guideline
  - 3 year plan upon first registration, and 5 year plan for registration renewal

Action plan Design (2020)

- 1<sup>st</sup> Action Plan drafted(3-year plan)
- Action Plan submitted to the WHO
- Complete registration for the WHO Age-Friendly City Network

Action plan Execution (2021)

- 1<sup>st</sup> Action Plan implemented
- Monitoring carried out based on evaluation criteria

Action plan Evaluation (2022–2026)

- 1<sup>st</sup> Action Plan evaluation Report submitted to the WHO
- Maintain eligibility to the WHO Age-Friendly City Network
- 2<sup>nd</sup> Action Plan set(5-year plan)

## Expected Budget

- Expected Budget for 8Action Areas 230,743.4 million KRW

Action type	Total	Existing Investment	2020	2021	2022	After2023
Total	230,743.4	50,499.6	47,623.6	48929	59,648.2	24,043
Outside spaces and Buildings	6,391	2,173	564	1,172	2,242	240
Transportation	3,829	1,311	1,006	756	756	0
Housing	Non-budget project					
Social Participation	6,484	572.8	4,907	1,003	1.2	0
Respect and Social Inclusion	23,670.6	0	8.6	29	1,029	22,604
Civic participation and employment	175,166	43,487	37,418	42,299	51,962	0
Communication and Information	7,344	1,222	2,082	2,020	2,020	0
Community Support and Health Services	7,858.8	1,733.8	1,638	1,650	1,638	1,199

## O Implementation Structure

- Establish an organic cooperation structure for the setting, implementation and evaluation of policies

Setting and Implementing the Action Plan (ChangWon City)



Evaluation and policy recommendations on the Action Plan
(Senior Policy Advisory Committee)

Set and Implement of Action Plan ⇒ Establish a cooperation system between
 16 related departments

Action type	Related Department				
Outside spaces and Buildings	Elderly & Disability Services Division, Economic Revitalization Division, Public Safety Division, industrial innovation division, Architecture & Landscape Services Division, Construction & Roads Division				
Transportation	public transportation division, Elderly & Disability Services Division,				
	Transportation & Logistics Division				
Housing	housing policy division				
Social Participation	Uichang Office of Library, Elderly & Disability Services Division,, Sports Promotion Division				
Respect and Social Inclusion	Changwon Public Health Center				
Civic participation and employment	Job Creation Division, Elderly & Disability Services Division				
Communication and Information	Administration Divisiont, Elderly & Disability Services Division				
Community Support and Health	Changwon Public Health Center, social welfare division, Elderly				
Services	& Disability Services Division				

- Evaluation of the Action Plan and Policy Recommentations
- 20 people as part of the senior policy advisory committee