

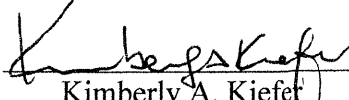
**ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA**

Monday, June 10, 2013, 6 p.m.

Assembly Chambers – Municipal Building

Special Meeting No. 2013-15

Submitted by:



Kimberly A. Kiefert

City and Borough Manager

I. FLAG SALUTE

II. ROLL CALL

III. SPECIAL ORDER OF BUSINESS

A. Joint Worksession with the Planning Commission

1. Transit Development Plan
2. Flood Map Review

IV. PUBLIC PARTICIPATION ON NON-AGENDA ITEMS.

(Not to exceed a total of 20 minutes nor more than 5 minutes for any individual).

V. CONSENT AGENDA

A. Public Requests for Consent Agenda Changes, Other Than Ordinances for Introduction

B. Assembly Requests for Consent Agenda Changes

C. Assembly Action

3. Ordinances for Introduction

a. Ordinance 2012-20(AT)

An Ordinance Appropriating To The Manager The Sum Of \$300,000 As Additional Funding For The Capital City Fire/Rescue, Emergency Services Program Fiscal Year 2013 Operating Budget, Funding Provided By The General Fund Fund Balance of \$300,000.

This ordinance would appropriate an additional \$300,000 to the FY13 Capital City Fire/Rescue operating budget. Funds will be provided by the General Fund fund balance.

Though Capital City Fire/Rescue FY13 general operations expenditures are within the approved budget two issues resulted in the needed supplemental:

- 1) Unanticipated ambulance revenue collection shortfalls from prior and current years (\$250,000)

2) Replacing 2 rescue boats with the understanding that the costs would be eligible for federal Secure Rural Schools Title III funding (\$50,000).

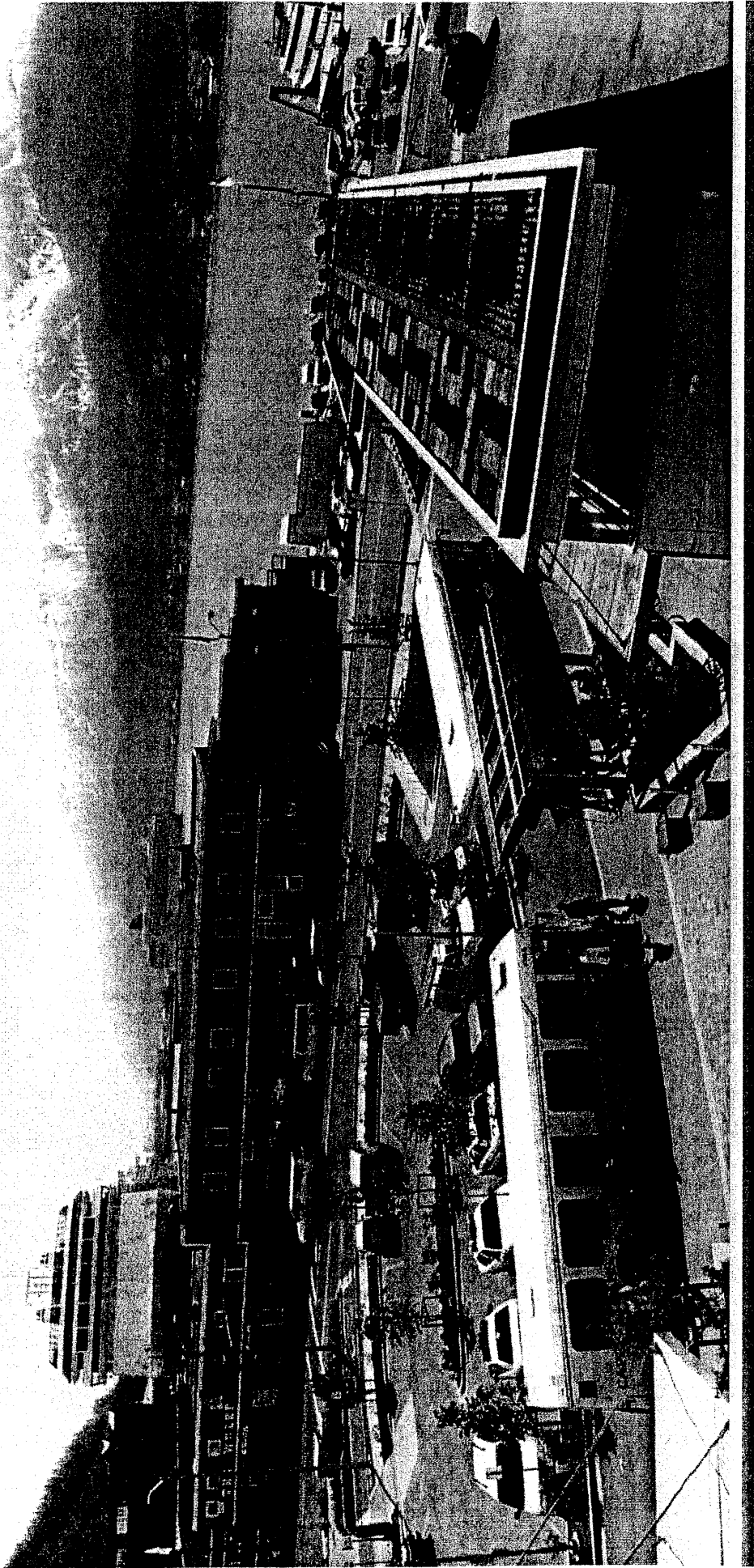
Write-offs for uncollectable billings had been growing during recent years but the budgeted revenues had not been updated. The FY14 budget does provide for the reduction in revenues. We are still working with the Forest Service regarding potential reimbursement but at this time the decision provided to CBJ is that the boats do not qualify for reimbursement.

I recommend this ordinance be introduced and set for public hearing at the next regular meeting.

VI. ADJOURNMENT

Note: Agenda packets are available for review online at www.juneau.org.

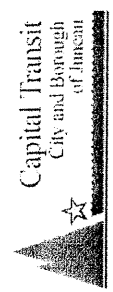
ADA accommodations available upon request: Please contact the Clerk's office 72 hours prior to any meeting so arrangements can be made to have a sign language interpreter present or an audiotape containing the Assembly's agenda made available. The Clerk's office telephone number is 586-5278, TDD 586-5351, e-mail: city_clerk@ci.juneau.ak.us



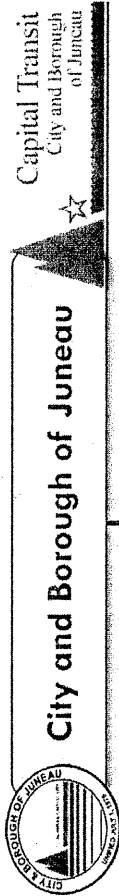
Comprehensive Operations Analysis and Transit Development Plan Update

City Assembly/Planning Commission Joint Meeting

June 10, 2013



Our Team



Capital Transit
City and Borough
of Juneau

City and Borough of Juneau

Project Management Team (PMT)

Study Advisory Group (SAG)

Barbara Sheinberg
Sheinberg Associates
Community Engagement Lead
& Local Contact

Meilani Schijvens
Sheinberg Associates
Community Engagement
& Local Contact

Donovan Bell
Sheinberg Associates
Analysis & Community Engagement

Paul Lutey, Principal
Nelson/Nygaard
Project Manager, Service Planning

Victor Stover, Associate
Nelson/Nygaard
Deputy PM & Service Planning

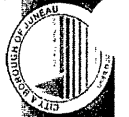
Hazel Scher/Emily Ehlers, Associate
Nelson/Nygaard
Data Collection & Analysis

GIS and Document Design

Geoff Slater, Principal
Nelson/Nygaard
Service Planning, Project Advisor

Bethany Whitaker, Principal
Nelson/Nygaard
Project Planner, Paratransit Lead, Financial
Planning

Thomas Brennan, Principal
Nelson/Nygaard
Project Advisor



Comprehensive Operations Analysis and Transit Development Plan

N NELSON
NYGAARD



Primary Study Goals

- Update 2008 Comprehensive Operations Analysis and Transit Development Plan
- Develop a Transit Improvement Plan (capital improvements)
- Ensure services are provided efficiently and effectively (maximize existing resources)
- Ensure operational feasibility and staffing capability

Specific objectives:

- Evaluate service expansion opportunities
- Downtown circulation
- Service in and around Lemon Creek
- On-time performance and reliability of transfers between routes
- Evaluate the impacts of tourism on the system
- Potential facility improvements in the valley



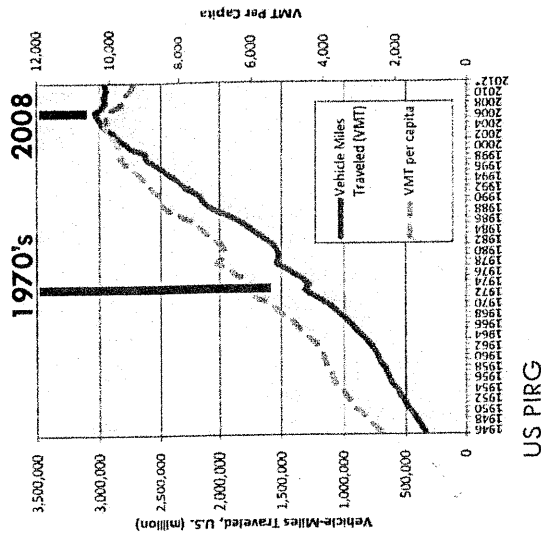
Other Study Goals

- Transit plays an important role for the economy, people without transportation options, etc.
- The way people commute and travel is changing
 - Younger people are 25% less likely to drive than just 8 years ago
 - Younger adults twice as likely to want to live in urban, walkable neighborhoods
 - New technology reduces and/or improves how we travel

The Importance of Public Transportation for the Economy of Juneau, Alaska

JFIE
Learn more at: www.juneautransportation.org

Juneau Coordinated Transportation Coalition



TRIMET TransitTracker

Stop ID: 1423
SE Division & 12th Avenue SW
8 min

4 Division/Fessenden to St Johns via City Center
Scheduled at 12:53pm

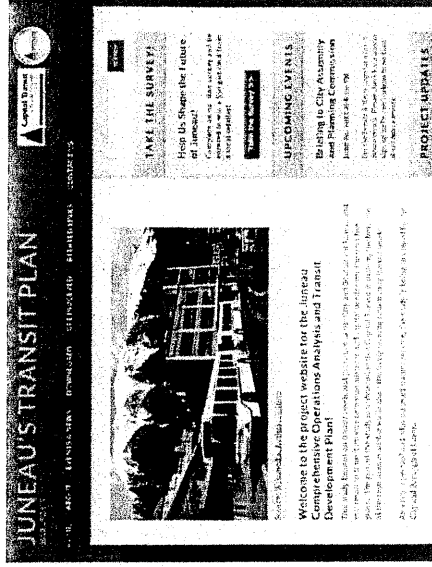
4 Division/Fessenden to St Johns via City Center
Scheduled at 11:12pm

4: For trips to Gresham Train Center, no service to SE Division & 10th (Stop ID 1485) after the stop at SE Division & 12th (Stop ID 1375).
Predictions as of 12:52pm



Scope of Work: Overview

- **Community Engagement**
 - Stakeholder meetings (April)
 - Driver meetings (April, ongoing)
 - Community surveys, website (ongoing)
 - Goals validation workshop (August)
 - Three rounds of public meetings
 - June 11th and 12th (first round)
- **Comprehensive Operations Analysis (July)**
 - Land use and market analysis
 - Systemwide performance trends
 - Ridership counts and on-board passenger survey
 - Peer review
 - Care-A-Van analysis



Project website: www.juneautransitplan.org

Capital Transit
City and Borough of Juneau

City and Borough of Juneau Transit Development Plan Community Survey
Introduction

6%

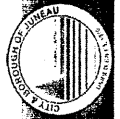
To help evaluate existing Capital Transit service in Juneau and identify ways to improve the quality and effectiveness of transit services, we are conducting a community-wide survey to assess potential needs and desires related to transit. Your participation will help the project team and local officials better understand transit usage, perceptions, and needs in Juneau. More information about the study can be found on the project website www.juneautransitplan.org.

This questionnaire should take about 10 minutes to complete. **Please note that this survey is intended for people who reside in the City and Borough of Juneau.** All responses are confidential and will only be reported in aggregate.

Submission of the completed questionnaire will be interpreted as your informed consent to participate and that you affirm that you are at least 18 years of age.

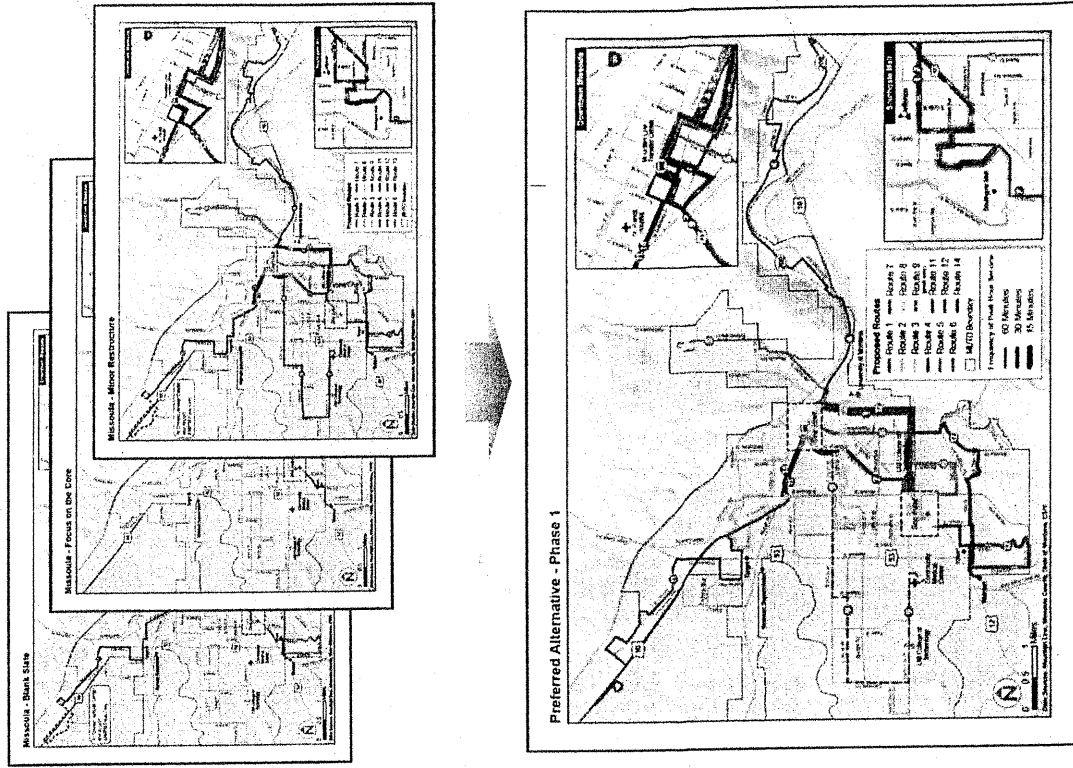
Next

Community survey: www.surveymonkey.com/s/Capital-Transit-Community-Survey



Scope of Work: Overview

- **Service Alternatives**
 - Fixed route service alternatives
(Late September)
 - Care-A-Van recommendations
(Late September)
 - Preferred service alternative
(Late November)
- **Draft and Final COA/TDP**
 - Final presentation to Assembly
(January 2014)
 - Final report (March 2014)



**DRAFT COMPREHENSIVE OPERATIONS
ANALYSIS: KEY FINDINGS**

Stakeholder/Community Interviews: Key Findings

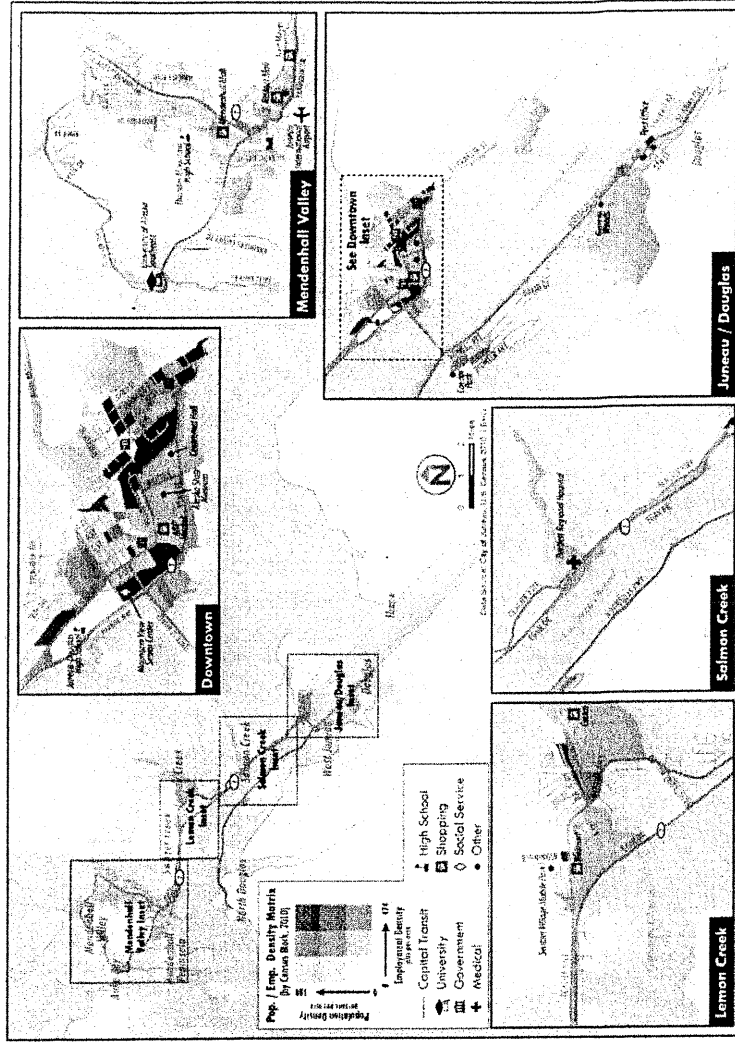
- Very high approval of transit
 - Good mix of students, commuters, seniors, etc.
- Desired service improvements
 - Service to Riverside Drive, Ferry Terminal, UAS student housing, and Costco/Home Depot
 - Later service hours on Auke Bay express
 - Better frequency / longer service hours / holiday service
- Some need for better information and amenities
 - Overcrowding is an issue
 - Some people want better passenger amenities (shelters, etc.)
 - Technology improvements (Google Transit, mobile app, etc.)
- Desire for better downtown circulation
 - Also the desire to tie transit to economic development goals
- Access to and from the bus an issue in some areas (especially during winter)



Market Analysis: Key Findings

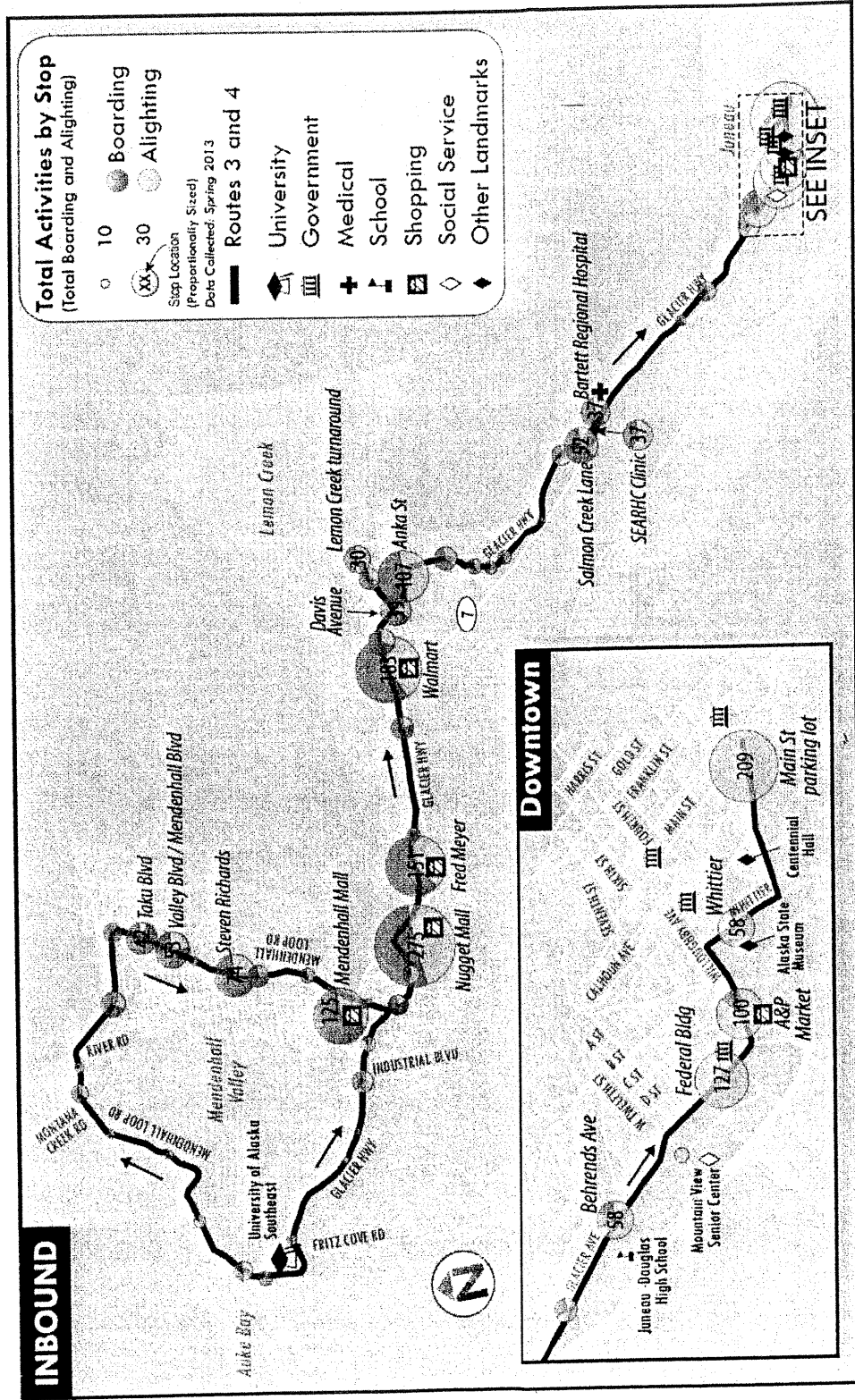
- Population and employment density most concentrated downtown and southern part of the valley
- Seniors much more concentrated in downtown, Douglas and Lemon Creek
- Youth more concentrated in the valley, downtown north of the Federal building
- Low-income and no-vehicle households closely mirrors population density

Population/Employment Density, 2010



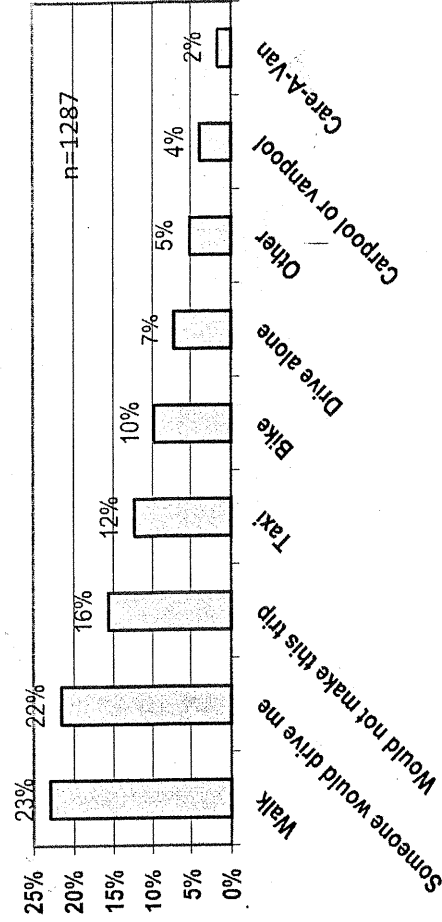
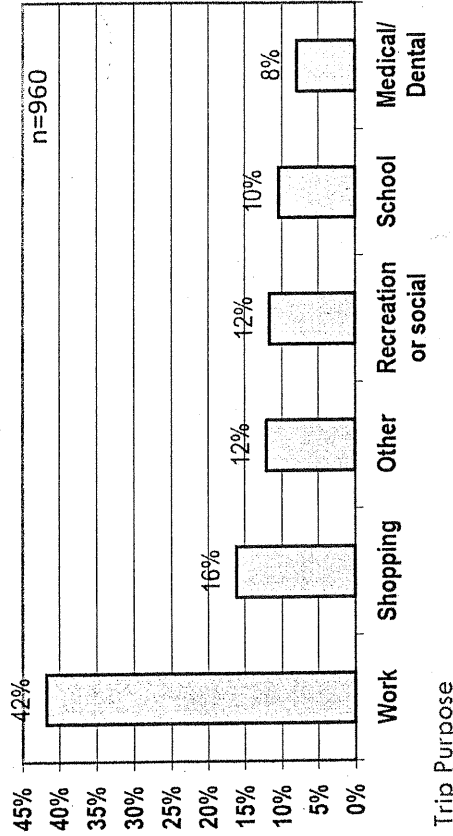
Existing Ridership: Key Findings

Mendenhall Valley/Lemon Creek, Routes 3 and 4 and Express (Weekday)



On-Board Passenger Survey: Key Findings

- Over 1,100 surveys collected
 - About 50% of all riders
- Good mix of trip types
 - work (42%), shopping (16%), recreation (12%), school (10%), medical (8%)
- Walk access is critical
 - Most people walk to the bus (94%); average walk – 6 min.
- Transfers are important
 - About 18% transfer once; 5% transfer twice (77% no transfer)
- Many regular riders
 - About 2/3 ride 5 or more days/wk; another 20% 2-4 times/wk;
 - 60% have ridden more than 2 years; 25% less than one year
- Riders have other options
 - 22% would get a ride; 23% would walk
 - But, 72% do not have a car available and 54% do not have a driver's license

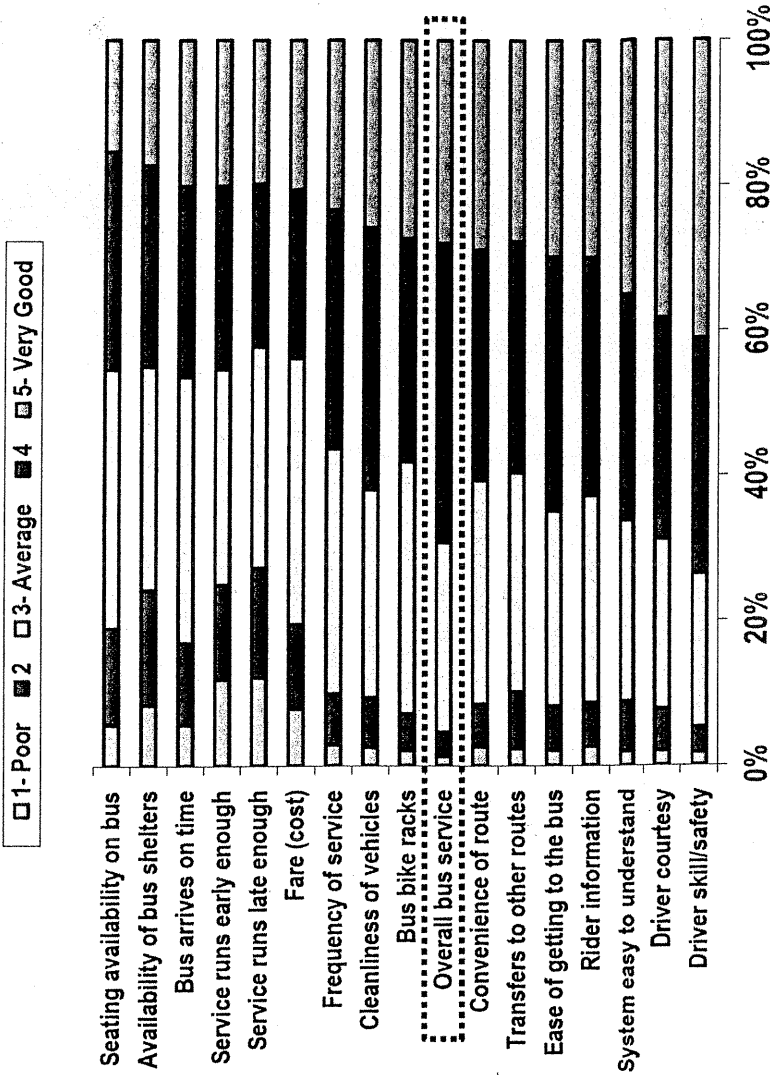


How would you have made this trip if transit were not available?



On-Board Passenger Survey: Key Findings

- Overall very high ratings
 - 70% Good or Very Good
 - Only 1% said Poor
- Overcrowding is biggest issue for existing passengers
- Passengers also desire earlier and later service
 - Later service hours on Sunday (until 10:00 PM)
 - As early as 6:00 AM on weekdays
 - Later weekday hours (until 12:00 AM)

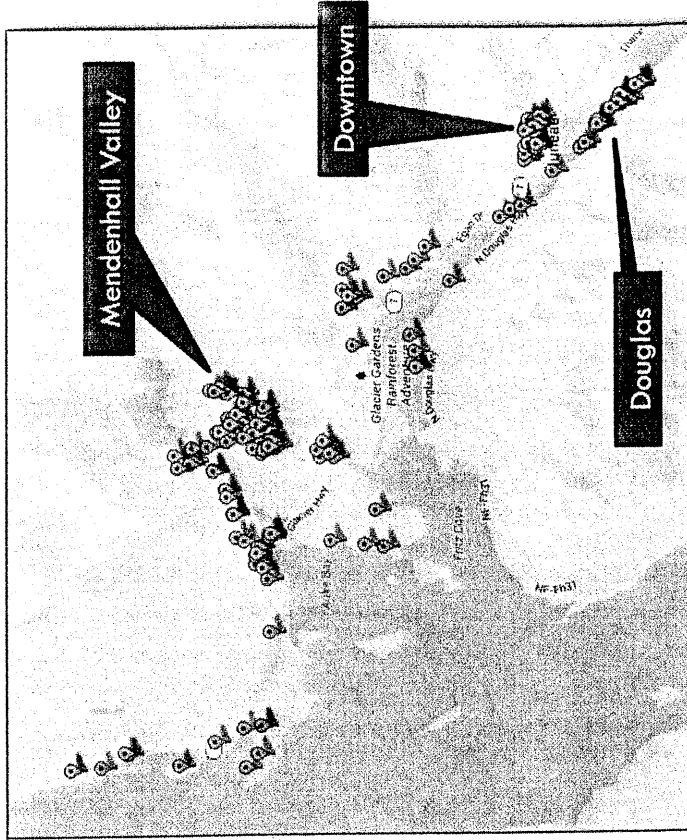


Ratings of Various Elements



UAS Survey: Key Findings

- 237 students, faculty and staff
- About 13% travel to/from campus by Capital Transit
 - 60% drive
 - 12% walk
 - About 7% use multiple modes
- Transit use split between the Mendenhall Valley/Lemon Creek and Auke Bay Express routes
 - Very few from Douglas
- About 30% said they would use the Auke Bay Express if it ran later
 - Until about 9:00 or 10:00 PM
- Among those who don't ride
 - Travel time and service hours do not fit schedule
 - Many just prefer to drive (or it's more convenient)



Home location of students, faculty, staff (n=167)



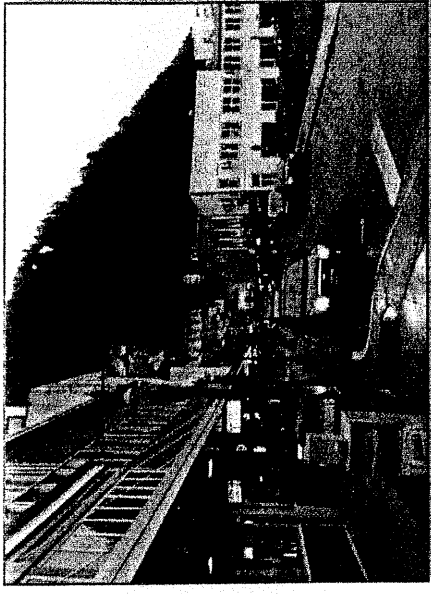
Peer Review: Key Findings

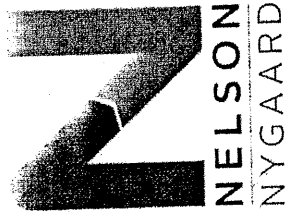
- Five peers selected: Ketchikan, Fairbanks, Anchorage, Port Angeles (WA) and Glenwood Springs/Aspen (CO)
- Peers have a much higher % of transit dependency than Juneau
- Very high transit mode share in Juneau – 5% – more on par with larger cities with higher levels of transit service
 - Juneau highest among Alaska peers
 - Glenwood Springs/Aspen (RFTA) is highest of peers (11%)
- Juneau on par with Alaska peers in terms of share of local revenues (about 2/3)
- Trips per capita in Juneau is significantly higher than any of the peers
- Productivity (passengers/hour) on par with Anchorage and RFTA
- Subsidy per passenger in Juneau lowest of any peer



Next Steps

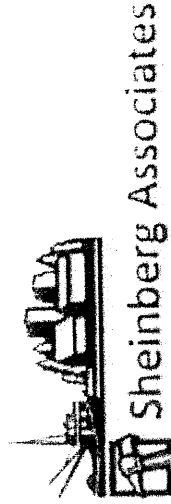
- Finalize COA report (mid July)
 - Incorporate comments from community input activities this week
 - Incorporate initial findings from community survey (but leave open through August or later)
 - Care-A-Van analysis
- Goals validation workshop (*August*)
- Service alternatives (*August - November*)
- Draft COA/Transit Development Plan/Transit Improvement Plan (*January 2014*)





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MEMORANDUM

CITY/BOROUGH OF JUNEAU
155 South Seward Street, Juneau, Alaska 99801

DATE: June 5, 2013

TO: Committee of the Whole

FROM: Hal H. Hart, Director ~~****~~
Eric Feldt, Planner, CFM ~~*****~~
Community Development Department

FILE NO.: AME2010 0009

PROPOSAL: New Flood Map Adoption Process

ATTACHMENT: List of New Flood Map Errors & Solutions

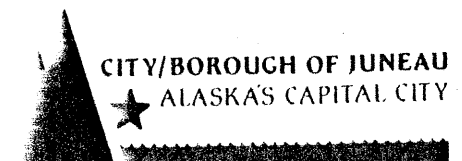
The City & Borough of Juneau (CBJ) has been participating in the National Flood Insurance Program (NFIP) since the 1970s, and has been updating flood maps and regulations through this program since then to protect the public and receive federal flood insurance. The Federal Emergency Management Agency (FEMA) manages the NFIP and requires the CBJ to adopt and enforce specific flood regulations and periodically updates new flood maps. To continue to receive federal flood insurance and new flood maps to locate flood-prone areas, the CBJ must adopt a new flood map set and additional flood regulations by August 19, 2013. This year, the Community Development Department (CDD) has hosted five public meetings and three Planning Commission meetings to inform and educate the public and policyholders about the effects of the new map set.

There are three main issues with the adoption of the new flood map set and regulations:

- 1) Effects of new flood regulations,
- 2) Changes between the effective and new flood maps, and
- 3) Inaccuracies in the new flood map.

Effects of New Flood Regulations

The flood regulations contain flood zone terms that correspond to the flood maps, specifically Zones A & V that represent areas that would be flooded during a 100-year storm event. Building foundations are limited to specific designs and elevations in those zones. The most profound change in the new regulations is the requirement that limits all new buildings be built on pilings in V Zones (coastal areas); instead of on new fill material placed underneath a regular CBJ-approved crawlspace foundation. The piling foundation design will allow flood waters to flow under the house, leaving it undamaged. Since the CBJ has allowed typical crawlspace foundations in this zone designed by a professional engineer for many decades, the CBJ is currently working with the State's Senators to lobby Congress to exempt Juneau from this V Zone piling foundation requirement.



Changes Between Flood Maps

The main changes between the effective flood map set and the new map set are A) the number of buildings put in/ taken out of the A or V Zone with the adoption of the new flood map set, B) changes in the A or V Zones, and C) increased flood elevations.

A) With the adoption of the new flood map set, CDD's best estimate is that there will be 272 buildings removed from and 226 buildings be put into an A or V Flood Zone. This means that of the 226 buildings that are currently financed through a federal loan, the property owners will be required to purchase flood insurance for that building. If the owner does not have a loan on the building, i.e. owns it outright, then they are not required to buy flood insurance. The owners of the 272 buildings will no longer be required to buy flood insurance. According to FEMA's March 31, 2013 statistics, there are 389 flood policy holders in Juneau.

The owners of those 226 buildings can file map amendments and revisions to try to remove those buildings from the A or V Zones to opt out of the flood insurance purchase requirement. The CBJ can assist the public in map amendments/revisions.

According to local insurance companies, private flood insurance may be available but difficult to obtain and not every lender accepts it when processing a loan. Further, it is normally more expensive than federal flood insurance. Private flood insurance does not have the same policy guarantees nor provide coverage in V Zones when compared to federal flood insurance. Due to the many variables that determine the cost of flood insurance, local lenders could not provide an estimate or range for private flood insurance for purposes of this memorandum. Federal flood insurance can range between \$400 and + \$4,000 per year.

B) The flood zone in the Auke Bay area is changing from an A Zone to a V Zone, which means that all new and substantially improved buildings will be limited to using a piling foundation for a building.

C) Flood elevations along many coastal areas are generally increasing by a foot or more. This increase could be attributed by the new Coastal model used to generate the flood elevations. This model has only been applied to a few communities in the country. An engineer, hired by the CBJ to examine the methodology of this coastal model, has concluded that the flood elevations may be drawn too conservatively.

Inaccuracies in the New Flood Map

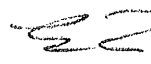
According to FEMA, the CBJ cannot make any changes to the new flood map until it is adopted. The CBJ has already found inaccuracies in the maps and have determined ways to improve them that are acceptable to FEMA. Attachment A lists these errors and solutions. The CBJ has entered into an agreement with FEMA to use current contour data to improve the new map once it is adopted.

MEMORANDUM

CITY/BOROUGH OF JUNEAU
155 South Seward Street, Juneau, Alaska 99801

DATE: May 10, 2013

TO: Planning Commission

FROM: Eric Feldt, Planner, CFM 
Community Development Department

FILE NO.: AME2010 0009

PROPOSAL: New Draft FEMA Flood Map Issues

The Community Development Department staff presented seven problems and recommended solutions for the new draft flood maps to the Planning Commission during a special meeting on April 23, 2013. Staff indicated to the Commission that they would follow up to see which solutions were acceptable/ not acceptable to FEMA as ways to make the maps more accurate. The seven items discussed during the special meeting are listed below.

List of problem issues and recommended corrections for the new draft flood maps (Not in order of importance)

- 1) **Velocity Flood Zones:** Velocity flood zones appear to be mapped too far inland and place more buildings within flood zone.

Fix: Hire coastal hydrologist to study hydrologic and hydraulic water conditions to determine appropriate base flood elevation or reach of flood zone line to better represent storm conditions.

- 2) **Auke Bay:** There are unusually high base flood elevations in Auke Bay area. Effects of new Statter Harbor breakwater to waves in the Auke Bay area do not seem to match with the new velocity flood zone in area.

Fix: Hire a coastal hydrologist to re-study the area and examine effects of the breakwater to determine appropriate base flood elevation and flood reach along coastline in Auke Bay. Research CBJ Docks & Harbors elevation data to find flood elevation and use 2012 Light Detection and Ranging (LiDAR) and future 2013 LiDAR topographic lines. Also, this flood elevation line may be argued as being too high.

- 3) **Auke Lake:** No defined base flood elevation in Auke Lake. Increased flood zone area on map puts more homes in high risk flood zone without stating a flood elevation.

Fix: Hire a hydrologist to study area to determine appropriate base flood elevation.

- 4) **Iso Static Rebound:** Flood levels change when land is rising (iso static rebound). How can this be recognized by FEMA and reflected on flood elevations.

Fix: Contact local surveyors and other professionals who are responsible for monitoring local tidal gages. Assess how to incorporate changes of tidal gage rise into the new flood maps. According to NOAA's Tides & Current webpage, <http://tidesandcurrents.noaa.gov/sltrends/sltrends.shtml>, the sea level in Juneau, Alaska is lowering by 12.95 mm/year (1/2 inch/year).

- 5) **Gold Creek:** No defined base flood elevation in Gold Creek. Increased flood zone area on map puts more homes in high risk flood zone without stating a flood elevation.

Fix: Hire a hydrologist to study hydrologic and hydraulic water conditions to determine appropriate location and base flood elevation in Gold Creek.

- 6) **Concrete Way:** Flood elevation of flood zone overlaying Concrete Way in Lemon Creek seems too high.

Fix: Find where flood elevation should be in the area by researching the documented subdivision elevations, and use 2012 LiDAR topographic lines. Work with FEMA in implementing 2012 and 2013 LiDAR. If flood elevation and real elevations match up, hire a hydrologist to study hydrologic and hydraulic water conditions to determine appropriate base flood elevation.

Staff notes that a question came up during the April 23, 2013 COW Planning Commission meeting of whether or not the flood study of Lemon Creek took place prior to the removal of the old bridge near the end of Concrete Way. This bridge was not shown in the cross sections of the Flood Insurance Study along Lemon Creek. Therefore, staff concludes that the study was done after the bridge was removed.

- 7) **Inaccurate Elevations:** Due to inaccuracies in the base map, many properties/buildings that are naturally elevated above the flood elevation (i.e. bluff) may be inadvertently placed in a A or V Flood Zone

Fix: Use 2012 and 2013 LiDAR to help refine flood locations and look at CBJ's records to find elevation data. This could lead to FEMA map amendments/ revisions to remove building/property from mapped flood zone.

According to FEMA, having a professional engineer perform hydraulic and hydrologic analyses consistent with FEMA-approved methodology to make changes to the maps are acceptable. Also, using LiDAR technology to delineate contour lines is acceptable for future changes. Staff notes that FEMA and CBJ have already agreed to use recent LiDAR to improve the flood maps. According to CDD staff, new 2013 LiDAR is expected to be available near the end of this calendar year. Lastly, CDD staff is continuing to learn about how glacial rebound (iso static lift) affects local tidal gages and how often these gages are reviewed.

In addition to adopting new Flood Insurance Rate Maps and the Flood Insurance Study, the CBJ is also required to bring all flood regulations up to current FEMA-minimum standards. Staff is aware that the CBJ will need to add more flood regulations. FEMA's contractors will send the additional flood regulations to staff to incorporate into the Land Use Code.

Presented by: The Manager
Introduced:
Drafted by: J. W. Hartle

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2013-FEMA

An Ordinance Amending the Land Use Code Regarding Flood Hazard Areas and Definitions.

BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU, ALASKA:

Section 1. Classification. This ordinance is of a general and permanent nature and shall become a part of the City and Borough of Juneau Code.

Section 2. Amendment of Section. CBJ 49.70.400 Floodplain, is amended to read:

49.70.400 Floodplain.

(a) Purpose. The purpose of this article is to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas.

Other purposes are to:

- (1) ~~Reserved. Combine with present zoning requirements, certain restrictions made necessary for the floodways to promote the aforesaid purposes;~~
- (2) Prevent the erection of structures in areas unfit for human usage by reason of danger from flooding, unsanitary conditions, or other hazards;
- (3) Minimize danger to public health by protecting the water supply and promoting safe and sanitary drainage;

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- (4) Reduce the financial burdens imposed on the community, its governmental units, and its individuals by frequent and periodic floods and overflow of lands;
- (5) Permit certain uses which can be appropriately located in the floodway and which will not impede the flow of floodwaters, or otherwise cause danger to life and property, at or above or below their locations along the floodway;
- (6) Ensure that potential buyers are notified that property is in an area of special flood hazards; and
- (7) Ensure that those who occupy the areas of special flood hazards assume ~~responsibilities~~ *financial responsibility* for their *development actions*.

(b) Interpretation.

- (1) In the interpretation and application of this article, all provisions shall be considered as minimum requirements and shall be liberally construed in favor of the governing body.
- (2) This article is not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where the provisions of this article and another ordinance, easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- (3) This article shall apply to all areas of special flood hazards within the jurisdiction of the City and Borough of Juneau.
- (4) The areas of special flood hazard identified by the Federal Insurance Administration in a scientific and engineering report entitled "The Flood Insurance Study" ~~for the~~

1 City and Borough of Juneau, Alaska" dated August 4, 1980, and the Flood
2 Insurance Rate Maps, effective dated, August 19, 2013, for the City and Borough
3 of Juneau, Alaska are adopted. and the flood boundary and floodway maps, effective
4 date, February 4, 1981, and identified as panels 020009; 0300B; 0700B; 0723B;
5 0865B; 0870B; 0885B; 0890B; 0895B; and 0925B; and the flood insurance rate maps
6 and the flood boundary and floodway maps, effective date, September 28, 1990, and
7 identified as panels 020009; 0878C; 0878; 0880C; and 0880; are adopted by reference
8 and declared to be part of this article. The flood insurance studies *Flood Insurance*
9 *Study and Flood Insurance Rate Maps* shall will be on file with the department.
10

- 11 (c) Methods of reducing losses. In order to accomplish its purpose, this article includes
12 methods and provisions for:
- 13
- 14 (1) Restricting or prohibiting uses which are dangerous to health, safety, and property
15 due to water or erosion hazards, or which result in damaging increases in erosion or
16 flood heights or velocities;
- 17 (2) Requiring that uses vulnerable to floods, including facilities which serve such uses,
18 be protected against flood damage at the time of initial construction;
- 19
- 20 (3) Controlling the alteration of natural floodplains, stream channels and natural
21 protective barriers, which help accommodate or channel floodwaters;
- 22 (4) Controlling filling, grading, dredging and other development which may increase
23 flood damage; and
- 24 (5) Preventing or regulating the construction of flood barriers which will unnaturally
25 divert floodwaters or which may increase flood hazards in other areas.

1 (d) General standards for flood hazard protection. In all areas of special flood hazards the
2 following standards shall be met:

3
4 (1) Anchoring.

5 (A) All new construction and substantial improvements shall be *designed, modified,*
6 *and adequately* anchored, to prevent flotation, collapse, or lateral movement of
7 the structure.

8 (B) All manufactured homes must likewise be anchored to prevent flotation, collapse,
9 or lateral movement, and shall be installed using methods and practices that
10 minimize flood damage. Anchoring methods may include, but are not limited to,
11 use of over-the-top or frame ties to ground anchors.

12
13 (C) An alternative method of anchoring may be used if the system is designed to
14 withstand a wind force of 90 miles per hour or greater. Certification must be
15 provided to the building official that this standard has been met.

16
17 (2) Construction materials and methods.

18 (A) All new construction and substantial improvements shall be constructed with
19 materials and utility equipment resistant to flood damage.

20 (B) All new construction and substantial improvements shall be constructed using
21 methods and practices that minimize flood damage.

22
23 (C) Electrical, heating, ventilation, plumbing, and air conditioning equipment and
24 other service facilities shall be designed or located so as to prevent water from
25

1 entering during a flood or accumulating within the components during conditions
2 of flooding.

3 (D) Within Zones AH and AO, all new construction and substantial improvements
4 shall require adequate drainage paths around structures on slopes to guide
5 floodwaters around and away from existing and proposed structures.
6

7 (3) Utilities.

8 (A) All new and replacement water supply systems shall be designed to minimize or
9 eliminate infiltration of floodwaters into the system.
10

11 (B) New and replacement sanitary sewage systems shall be designed to minimize or
12 eliminate infiltration of floodwaters into the systems and discharge from the
13 systems into floodwaters.

14 (C) On-site waste disposal systems shall be located to avoid impairment to them or
15 contamination from them during flooding.
16

17 (4) Subdivision proposals shall:

18 (A) ~~All subdivision proposals shall~~ Be consistent with the need to minimize flood
19 damage within flood-prone areas;.

20 (B) ~~All subdivision proposals shall~~ Have public utilities and facilities such as sewer,
21 gas, electrical, and water systems located and constructed to minimize flood
22 damage;.

23 (C) ~~All subdivision proposals shall~~ Have adequate drainage provided to reduce
24 exposure to flood damage; and
25

1 (D) *Include base flood elevation data* ~~Where base flood elevation data has not been~~
2 ~~provided or is not available from another authoritative source, shall be provided~~
3 ~~for subdivision proposals and other proposed if the development which contain~~
4 *consists of at least 50 lots or five acres.*

5
6 (5) *Review of building permits shall include:*

7 (A) *The review of the Flood Insurance Rate Map and Flood Insurance Study for flood*
8 *zone determinations for all new or substantially improved structures;*

9 (B) *For new or substantially improved structures:*

10 (i) *In Zones A1-30, AE, AO, and AH, the submittal of the lowest floor elevations;*

11 *or*

12 (ii) *In Zones V1-30, and VE, the submittal of the bottom of the lowest floor*
13 *elevation and its distance from the mean lower low water mark;*

14 (C) *In Zones A and V, Where elevation data are not available either through the*
15 *flood insurance study or from another authoritative source, applications for*
16 *building permits shall be reviewed to ensure that proposed construction will be*
17 *reasonably safe from flooding. The test of reasonableness is a local judgment and*
18 *may be based on historical data, high water marks, photographs of past flooding,*
19 *and other similar or relevant data. Failure to elevate construction at least two*
20 *feet above grade in these zones may result in higher insurance rates.*
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1 (6) Other permits. All development permits shall be reviewed to determine that all
2 necessary permits have been obtained from those federal, or state, or local
3 governmental agencies from which prior approval is required.

4
5 (7) Alteration of watercourses. Altered or relocated portions of a watercourse shall be
6 maintained so that the flood-carrying capacity is not diminished.

7 (e) Specific standards for flood hazards protection. In all areas of special flood hazards where
8 base flood elevation data has been provided, the following provisions are required:

9 (1) ~~All construction.~~ *New structures or substantial improvements.* Fully enclosed areas
10 below the lowest floor of *new construction or substantial improvements*, that are
11 *useable solely for parking of vehicles, building access, or storage in an area other than*
12 *a basement, and which are subject to flooding, are prohibited, or shall be designed to*
13 *automatically equalize hydrostatic flood forces on exterior walls by allowing for the*
14 *entry and exit of floodwaters.* Designs for meeting this requirement must either be
15 certified by a registered professional engineer or architect or must meet or exceed the
16 following minimum criteria:

17
18 (A) A minimum of two openings having a total net area of not less than one square
19 inch for every square foot of enclosed area subject to flooding shall be provided.;

20
21 (B) The bottom of all openings shall be no higher than one foot above grade.;

22 (C) Openings may be equipped with screens, louvers, or other coverings or devices
23 provided that they permit the automatic entry and exit of floodwaters.
24
25

1 (2) Residential construction. New construction and substantial improvement of any
2 residential structure: ~~shall have the lowest floor, including basement, elevated to or~~
3 ~~above base flood elevation.~~

4 (A) *Within zones A1-30, AE, or AH, shall have the lowest floor, including basement,*
5 *elevated to, or above, the base flood elevation, or*

6 (B) *Within zone AO, shall have the lowest floor elevated to the base flood depth*
7 *number specified on the Flood Insurance Rate Map, or higher, or if no depth number*
8 *is specified, at least two feet above the highest adjacent natural grade.*

9
10 (43) Manufactured homes. All *new or substantially improved* manufactured homes: ~~to be~~
11 ~~placed or substantially improved~~

12 (A) ~~w~~Within zones A1-30, AH, and or AE, shall be elevated to, or above, the base
13 *flood elevation, on a permanent foundation such that the lowest floor of the*
14 *manufactured home is at or above the base flood elevation and securely anchored to*
15 *an adequately anchored foundation system in accordance with the provisions of*
16 *subsection (d)(1)(B) of this section and comply with section (d)(1); or*

17 (B) *Within zone AO, shall have the lowest floor elevated to the depth number*
18 *specified on the Flood Insurance Rate Map, or higher, or if no depth number is*
19 *specified, at least two feet above the highest adjacent natural grade; and meet the*
20 *provisions of section (d)(1).*

1 (4) *Recreational vehicles placed within Zones A1-30, AH, AE, AO, and A shall:*

2 (A) *Be on site for fewer than 180 consecutive days;*

3 (B) *Be fully licensed and ready for highway use; or*

4 (C) *Meet the requirements of subsection (e)(3).*

5
6 (35) *Nonresidential construction. New construction and or substantial improvement of*
7 *any commercial, industrial, or other nonresidential structure:*

8
9 (A) *Within zones A1-30, AE, and AH, shall either have the lowest floor, including*
10 *basement, elevated to, or above, the level of the base flood level; elevation, or base*
11 *flood depth; or, together with attendant utility and sanitary facilities, shall:*

12 (B) *Within zone AO, shall have the lowest floor elevated to the depth number*
13 *specified on the Flood Insurance Rate Map, or higher, or if no depth number is*
14 *specified, at least two feet above the highest adjacent natural grade; or*

15 (C) *Within zones A1-30, AE, AH and AO, may have the area below flood level be*
16 *flood proof so that:*

17
18 (Ai) ~~Be floodproofed so that below the base flood level of~~ *The structure and*
19 *utility and sanitary facilities are is watertight with walls substantially*
20 *impermeable to the passage of water;*

21 (Bii) ~~Have~~ *Structural components shall have the capable capability of resisting*
22 *hydrostatic and hydrodynamic loads and effects of buoyancy;*

23 (C) ~~Be certified by an engineer or architect that the design and methods of~~
24 *construction are in accordance with accepted standards of practice for meeting*
25

1 provisions of this subsection based on the engineers or architects development or
2 review of the structural design, specifications, and plans. Such certification shall
3 be provided to the building official;

4
5 (D) ~~Nonresidential structures that are elevated, not floodproofed, must meet the~~
6 ~~same standards for space below the lowest floor as described in subsection (c)(1)~~
7 ~~of this section; and A flood proof structure shall be designed by an engineer or~~
8 ~~architect licensed in the State of Alaska, certifying that the design and methods of~~
9 ~~construction are in accordance with accepted standards of practice for meeting~~
10 ~~provisions of this subsection based on the engineer's or architect's development or~~
11 ~~review of the structural design, specifications, and plans. Such certification shall~~
12 ~~be provided to the building official,~~

13
14 (E) Applicants proposing to floodproof nonresidential buildings shall be notified at
15 the time of building permit application that flood insurance premiums shall be
16 based on rates that are one foot below the floodproofed level.

17 (6) *Industrial uses.*

18 (A) *Sand and gravel operations, recreation activities, open space, and parking lots*
19 *may be allowed in 100-year floodplains only if they do not increase the flood hazard.*

20 (B) *Industrial equipment and raw materials stored in 100-year floodplains shall be*
21 *adequately bermed or otherwise protected.*

22 (C) *Disposal of hazardous materials in 100-year floodplains is prohibited. No new*
23 *development which will involve storage of hazardous materials will be permitted in*
24
25

1 the 100-year floodplain unless there is no feasible and prudent alternative and unless
2 safety measures are provided to prevent accidental discharge.

3 (D) Establishment of sanitary landfills in floodplains is prohibited.

4
5 (7) Increasing water surface elevation. Notwithstanding any other provisions of this
6 section, development in Zones A1-30, AE, and AH that increase the water surface
7 elevation of the base flood by more than one foot may be allowed only after a
8 conditional Flood Insurance Rate Map and floodway revision is approved by the Flood
9 Insurance Administrator.

10 (f) Additional provisions in floodways. Floodways are shown in the Flood Insurance Rate
11 Map.

12
13 (1) Residential and nonresidential developments are prohibited in floodways. Culverts
14 and bridges are not subject to this prohibition.

15 (2) Encroachments, including fill, new construction, substantial improvements, and other
16 development, except subdivisions, within a floodway is prohibited unless an Engineer
17 licensed in the State of Alaska submits a hydrologic and hydraulic analyses to the director
18 indicating that the encroachment would not result in any increase in flood levels during
19 the occurrence of the base flood discharge. The hydrologic and hydraulic analyses shall be
20 performed in accordance with standard engineering practice acceptable by the Federal
21 Emergency Management Agency.

22
23 (3) Unless a conditional Flood Insurance Rate Map and floodway revision that
24 conditionally revises the floodway is approved by the Federal Emergency Management
25

1 Agency, development along a floodway shall not increase the water surface elevation by
2 more than one foot at any point.

3
4 (fg) ~~Additional provisions in Zones V1-V30, VE and V. In areas designated as Zones V1-V30,~~
5 ~~VE and/or V, the following provisions shall also apply:~~

6 (1) All new construction and substantial improvements in Zones V1-V30, and VE, and (V
7 if base flood elevation data is available) shall be elevated on pilings and columns so
8 that:

9 (A) The bottom of the lowest horizontal structural member of the lowest floor,
10 excluding the pilings or columns, is elevated to or above the base flood level; and

11
12 (B) The pile or column foundation and structure attached thereto is anchored to
13 resist flotation, collapse and lateral movement due to the effects of wind and
14 water loads acting simultaneously on all building components. Wind and water
15 loading values shall each have a one percent chance of being equaled or exceeded
16 in any given year (100-year mean recurrence interval). *Wind loading values used*
17 *shall be those required by applicable State or City and Borough Title 19. A*
18 *registered professional engineer or architect shall develop or review the*
19 *structural design, specifications and plans for the construction and shall certify*
20 *that the design and methods of construction to be used are in accordance with*
21 *accepted standards of practice for meeting the provisions of subsections (fg)(1)(A)*
22 *and (B) of this section.*

23
24 (2) ~~The local administrator shall maintain records of the elevation (in relation to mean~~
25 ~~lower low water) of the bottom of the lowest structural member of the lowest floor~~

1 (excluding pilings and columns) of all new and substantially improved structures in
2 Zones V1-V30 and VE, and whether or not such structures contain a basement.

3
4 (32) In Zones V1-V30, VE, and V, Aall new habitable construction shall be located
5 landward of the reach of mean high tide.

6 (43) In Zones V1-V30, VE, and V, Aall new construction and substantial improvements
7 shall have the space below the lowest floor either free of obstruction or constructed
8 with nonsupporting breakaway walls, open wood latticework, or insect screening
9 intended to collapse under wind and, water loads without causing collapse,
10 displacement, or other structural damage to the elevated portion of the building or
11 supporting foundation system.

12
13 (4) ~~For the purpose of this section, a B~~breakaway walls shall have a design safe loading
14 resistance of not less than ten pounds per square foot and no more than 20 pounds
15 per square foot. Use of breakaway walls which exceed a design safe loading
16 resistance of 20 pounds per square foot (either by design or when so required by local
17 or state codes) may be permitted only if a registered professional engineer or
18 architect certifies that the designs proposed meet the following conditions:

19
20 (A) Breakaway wall collapse shall result from a water load less than that which
21 would occur during the base flood; and

22 (B) The elevated portion of the building and supporting foundation system shall not
23 be subject to collapse, displacement, or other structural damage due to the effects
24 of wind and water loads acting simultaneously on all building components
25 (structural and nonstructural). Maximum wind and water loading values to be

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used in this determination shall each have a one percent chance of being equaled or exceeded in any given year (100-year mean recurrence interval). *Wind loading values used shall be those required by applicable State or City and Borough Title 19.*

(5C) ~~If breakaway walls are utilized, such~~ *Enclosed space within breakaway walls shall be limited to usable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.*

(65) ~~The use of fill for structural support of buildings within Zones V1-30 may be allowed only when certified by an engineer or architect that the standards of this chapter are satisfied.~~

...
Section 3. Amendment of Section. CBJ 49.80.120 Definitions, is amended by the addition of the following definitions in alphabetical order, to read:

49.80.120 Definitions.

The following words, terms and phrases, when used in this title, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

...
Base flood means a flood having a one percent chance of being equaled or exceeded in any given year.

1 **Base flood depth** means the depth shown on the Flood Insurance Rate Map for Zone
2 AO that indicates the depth of water above highest adjacent grade resulting from a
3 flood that has a one percent chance of equaling or exceeding that level in any given year.
4

5 ~~**Base flood elevation** means the highest elevation, expressed in feet above sea level,~~
6 ~~of the height of flood waters occurring in the regulatory base flood.~~
7

8
9 **Base flood elevation (BFE)** means the elevation of surface water resulting from a
10 base flood. The BFE is shown on the Flood Insurance Rate Map (FIRM) for zones AE,
11 AH, A1-A30, AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO, V1-V30, and VE.
12

13 **Finished (habitable) area**—An enclosed area having more than 20 linear feet of
14 finished interior walls (paneling, etc.) or used for any purpose other than solely for
15 parking of vehicles, building access, or storage.
16

17 **Flood means**

18 (1) A general and temporary condition of partial or complete inundation of two or more
19 acres of normally dry land area or of two or more properties (at least one of which
20 is the policyholder's property) from:
21

22 A) Overflow of inland or tidal waters;
23

24 B) Unusual and rapid accumulation or runoff of surface waters from any source;
25

or

1 C) *Mudflow; or*

2
3 (2) *Collapse or subsidence of land along the shore of a lake or similar body of water as*
4 *a result of erosion or undermining caused by waves or currents of water exceeding*
5 *anticipated cyclical levels that result in a flood as defined above.*

6
7 ~~**Flood and flooding** mean a general and temporary condition of partial or complete~~
8 ~~inundation of normally dry land areas from:~~

9 (1) ~~The overflow of inland or tidal waters; and/or~~

10 (2) ~~The unusual and rapid accumulation of runoff of surface waters from any source.~~

11
12 ~~**Flood Zones A or V means (area of special flood hazard)** means the land within a~~
13 ~~community subject to one percent or greater chance of flooding in any given year. This~~
14 ~~area is equivalent to the "100-year floodplain." Designation on maps always includes~~
15 ~~the letters A or V.~~

16
17
18 ~~**Flood Zones AO or AH means (areas of shallow flooding)** means a designated AO~~
19 ~~or AH zone on the flood insurance rate map (FIRM). The base flood depths range from~~
20 ~~one to three feet; a clearly defined channel does not exist; the path of flooding is~~
21 ~~unpredictable and indeterminate; and, velocity flow may be evident. AO is~~
22 ~~characterized as sheet flow and AH indicates ponding.~~

1 **Flood hazard factor (FHF)** means the average weighted difference between the ten-
2 year and 100-year floodwater multiplied by ten.
3

4 **Flood insurance rate map (FIRM)** means the official map on which the Federal
5 Insurance Administration has delineated both the areas of special flood hazards and
6 the risk premium zones applicable to the community.
7

8
9 **Flood insurance rate map (FIRM)**--Official map of a community on which FEMA
10 has delineated the Special Flood Hazard Areas (SFHAs), the Base Flood Elevations
11 (BFEs), and the risk premium zones applicable to the community.
12

13 **Historic building** means any building that is:

- 14
15 (A) Listed individually in the National Register of Historic places (a listing
16 maintained by the Department of the Interior) or preliminarily determined
17 by the Secretary of the Interior as meeting the requirements for individual
18 listing on the National Register; or
19 (B) Certified or preliminarily determined by the Secretary of the Interior as
20 contributing to the historical significance of a registered historic district or a
21 district preliminarily determined by the Secretary of the Interior to qualify
22 as a registered historic district; or
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1 (C) Individually listed in a state inventory of historic places in states with
2 preservation programs that have been approved by the Secretary of the
3 Interior; or

4 (D) Individually listed on a local inventory of historic places in communities
5 with historic preservation programs that have been certified either:

6 (i) By an approved state program as determined by the Secretary of the
7 Interior; or

8 (ii) Directly by the Secretary of the Interior in states without approved
9 programs.
10

11 **Lowest floor** means, for purposes of sections 49.70.400 ~~49.70.410~~, the lowest floor of
12 the lowest enclosed area, including basement. An unfinished or flood-resistant
13 enclosure, usable solely for parking of vehicles, building access or storage, in an area
14 other than a basement area, is not considered a building's lowest floor, provided that
15 such enclosure is not built so as to render the structure in violation of the applicable
16 non-elevation design requirements of this ordinance found at subsection
17 49.70.400(e)(1)(B)
18

19
20 **Lowest floor** means the lowest floor of the lowest enclosed area (including a basement).
21 An unfinished or flood-resistant enclosure, usable solely for parking of vehicles,
22 building access, or storage in an area other than a basement area, is not considered a
23 building's lowest floor provided that it does not violate section 49.70.400 (e)(1).
24
25

1 **Natural grade** means the grade unaffected by construction techniques such as fill,
2 landscaping, or berming.

3
4 **Substantial damage** means the damage of any origin sustained by a building
5 whereby the cost of restoring the building to its before-damaged condition would equal
6 or exceed 50 percent of the market value of the building before the damage occurred.

7
8 **Substantial improvement** means any reconstruction, rehabilitation, addition, or
9 other improvement of a building, the cost of which equals or exceeds 50 percent of the
10 market value of the building before the "start of construction" of the improvement.
11 Substantial improvement includes buildings that have incurred "substantial damage,"
12 regardless of the actual repair work performed. The term does not, however, include
13 either any project for improvement of a building to correct existing state or local code
14 violations or any alteration to a "historic building," provided that the alteration will not
15 preclude the building's continued designation as a "historic building."
16

17
18 **Unfinished area** means an enclosed area that is used only for the parking of vehicles,
19 building access, or storage purposes and that does not meet the definition of a finished
20 (habitable) area. Drywall used for fire protection is permitted in unfinished areas.
21

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Section 5. Effective Date. This ordinance shall be effective 30 days after its adoption.

Adopted this _____ day of _____, 2013.

Merrill Sanford, Mayor

Attest:

Laurie J. Sica, Clerk

DRAFT

Presented by: The Manager
Introduced: 06/24/2013
Drafted by: Finance

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2012-20(AT)

An Ordinance Appropriating To The Manager The Sum Of \$300,000 As Additional Funding For The Capital City Fire/Rescue, Emergency Services Program Fiscal Year 2013 Operating Budget, Funding Provided By The General Fund Fund Balance of \$300,000.

BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU, ALASKA:

Section 1. Classification. This ordinance is a noncode ordinance.

Section 2. Appropriate. There is appropriated to the Manager the sum of \$300,000 for the Capital City Fire/Rescue, Emergency Services program Fiscal Year 2013 operating budget:

Section 3. Source of Funds

General Fund Fund Balance \$300,000

Section 4. Effective Date. This ordinance shall become effective upon adoption.

Adopted this ____ day of _____ 2013.

Merrill Sanford, Mayor

Attest:

Laurie J. Sica, Municipal Clerk