

HART 4-Car trains

December 19, 2013

HART 4-Car Train Proposal

- **Current Plan is 40 trains (2-Cars) = 80**



- **Proposal is 20 trains (4-cars) = 80**



- **Headways will increase from 2.9 to 5.6 minutes in first year of operation**

Longer Trains

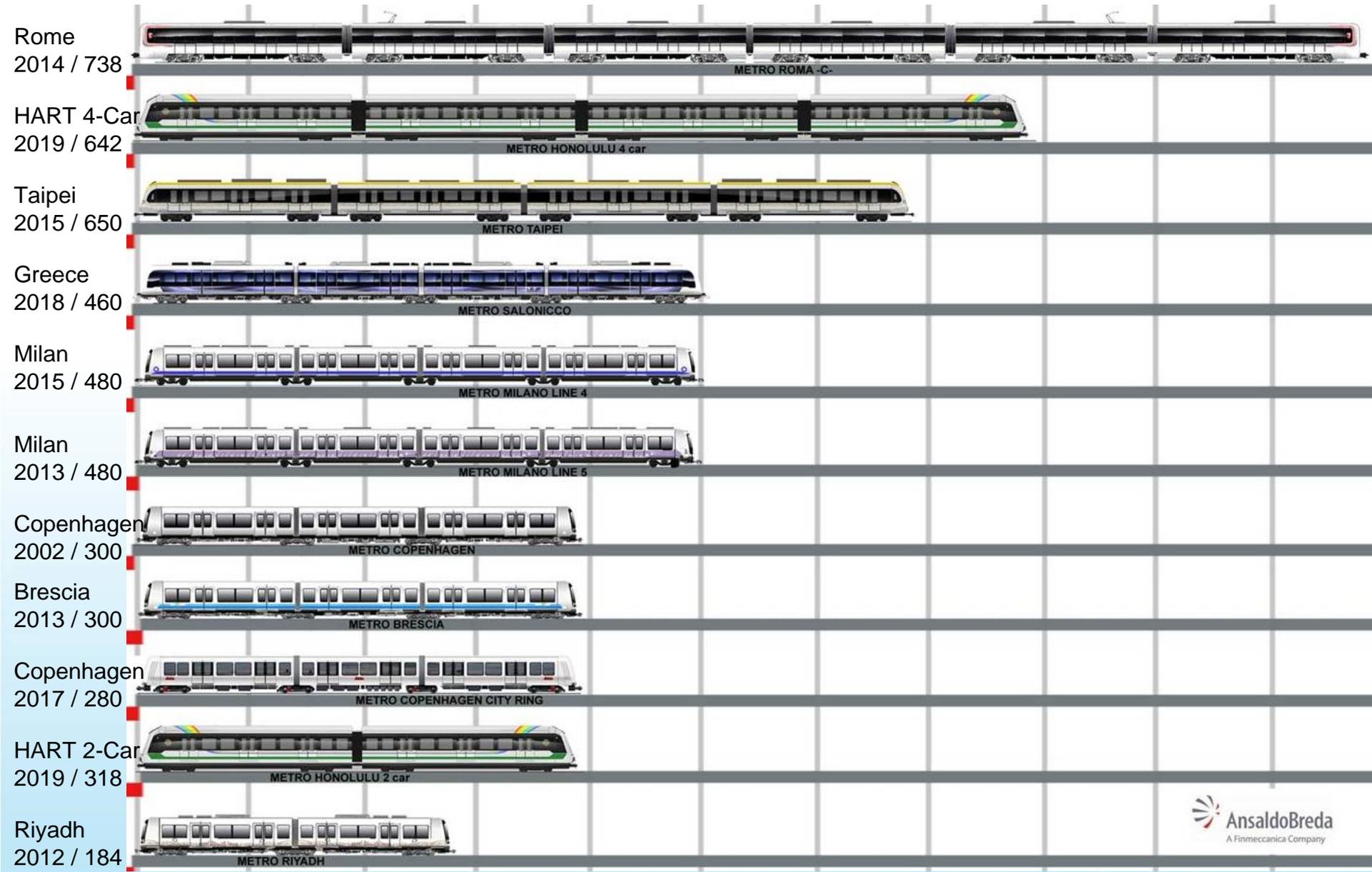
Full Platform Utilization

The graphic on the next slide illustrates the trend in driverless metro's to use longer trains.

- *Don't* buy infrastructure you don't need long-term (HART has 4-car platforms).
- *Do* use all the infrastructure you build and buy (use all of the station platform).
- *Do* ensure the most convenient passenger flow through the station and on and off the trains. Key for elderly, disabled and customers with children.



Year / Passengers



4-Car Trains

Customer Service Benefits

•Improved Station Flow

- *Maximize utilization of the station platforms and maximize efficiency of boarding and de-boarding.*
- *With short trains, customers are forced to funnel to the middle of the platform.*

•Doubled Train Capacity

- *Unlikely to leave passengers on platform to wait for next train.*
- *Fewer passengers standing especially during off-peak service – more seats.*
- *Better availability of seats and special use areas - Wheelchairs, Prams, Bikes, Luggage and Surf Boards.*

•Customer Perception Improvement

- *Less crowding means a more enjoyable experience and attracting more customers.*
- *More Equalized passenger distribution through gangways of longer trains.*

•Better Special Event Service

- *Longer trains will more effectively disperse large crowds during special events by utilizing the entire platform and loading twice as many passengers.*

4-Car Trains

Service Disruptions

Future Expansion from 2, to 3, to 4-Car Trains Would Be Disruptive to Passenger Service

- *Additional Train Qualification Testing on Main Line*
- *Shop disruption while inserting M-Cars*
- *Loss of service while trains are out for modification*

FTA Recommendation

November 2013 FTA Administrator Approved HART's Proposal

4-Car Trains

Cost Savings

- **Middle Cars are Less Costly than End Cars**

- *Middle cars have no manual control stations, or train control equipment.*

- **Shorter Trains require twice as much train control equipment**

- *Both on the vehicles, and in the stations.*

- **Optimize Storage Yard**

- *Longer trains use less track storage space. Reduction in number of tracks.*

- **Lower Overall Maintenance Costs**

- *Less vehicle and wayside train control equipment.*
- *No “Extra” Platform Screen Gate Maint for Unused Doors with short trains.*
- *Longer trains mean Platform Screen Gate’s are fully utilized.*

HART's Estimated Cost Savings

Facilities	\$2M - \$3M
Vehicles	\$8M - \$12M
Train Control	\$6M - \$8M
Operations & Maintenance	\$100k - \$300k annually

APD
CME 00001



DISABILITY AND COMMUNICATION ACCESS BOARD

919 Ala Moana Boulevard, Room 101 • Honolulu, Hawaii 96814
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July 31, 2013 HART

Mr. Daniel A. Grabauskas
Executive Director and CEO
Honolulu Authority for Rapid Transportation
City and County of Honolulu
1099 Alakea Street
Seventeenth Floor
Honolulu, HI 96813

'13 AUG -1 22:00

Regarding: Disability and Communication Access Board Comments on Cars and Rail Stations

Dear Mr. Grabauskas,

The Disability and Communication Access Board (DCAB) appreciates the ongoing dialogue that has been established with the Honolulu Authority for Rapid Transportation (HART) with respect to ensuring access for persons with disabilities both in the physical design of the system and the operation of services.

During the presentation that was made at our community forum, you and your staff raised two (2) issues regarding the design of the station and the train that may impact individuals with disabilities. Our Board met on July 19, 2013 and voted to offer comments to you regarding those issues. While we recognize that the issues do not involve compliance with disability laws, they do impact the service level and potential riders with disabilities.

- (1) We understand that HART is considering the use of four (4) car, rather than two (2) car trains. We also understand that the stations are being designed to accommodate a four (4) car train choose the larger train. DCAB supports its use, as it will provide more doors, making it easier for those who may be slow in ambulation, to board and disembark.
- (2) We understand that HART is considering the use of plexi-glass or other similar see-through barriers. We support its use, as it will provide a clear path for people with visual limitations in detecting warnings can provide a clear path for use as a design measure that complies with the Americans with Disabilities Act (ADA).

We understand that HART is considering the use of four (4) car, rather than two (2) car trains. We also understand that the stations are being designed to accommodate a four (4) car train and will not result in any redesign should you choose the larger train. DCAB supports the use of a four (4) car train because it will disperse the riders among more doors and thus reduce the "crowding" at the doors, making it less difficult for individuals with disabilities, particularly those who may be slow in ambulation, to board and disembark.

Mr. Daniel A. Grabauskas
Executive Director and CEO
Regarding: Disability and Communication Access Board Comments on Cars and Rail Stations
July 31, 2013
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DCAB also wishes to offer a comment regarding the staffing of the stations. We know that the use of a rail system may be a new concept to many people in Hawaii, including people with disabilities. Individuals with disabilities will have many challenges to understanding the system, including the use of the fare machines, security, access to the elevators and restrooms, access for service animals, etc. Understanding the system requirements by people who are deaf, hard of hearing, blind, have low vision, cognitively challenged, or with mobility limitations will require interaction with a human being, especially at the onset of service. We hope that HART will take this into consideration as you provide for customer service and support at the stations.

Should you have any questions regarding our comments, please feel free to contact us via our Executive Director, Francine Wai, at 586-8121 or via email at dcab@doh.hawaii.gov.

Sincerely,

MICHAEL S. OKAMOTO
Vice Chairperson

c: Jeanne Mariani-Belding
Director of Communications

Scott Ishikawa
Information Specialist

Honolulu Star Advertiser Poll

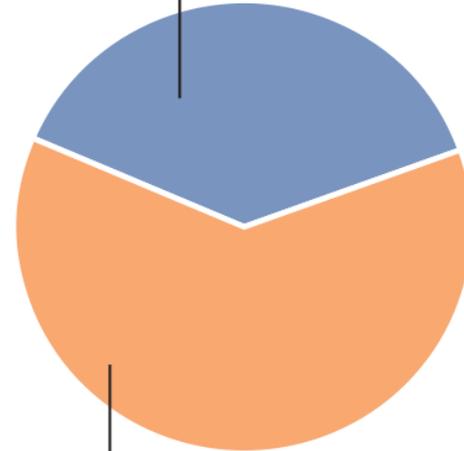
Monday, June 17, 2013

MONDAY'S BIG Q:

For Oahu's rail, do you favor 40 two-car trains (less capacity every three minutes) or 20 four-car trains (more capacity every five-plus minutes)?

40 two-car trains

A. 38%



20 four-car trains

B. 62%

Total votes: 2,030

Mahalo!

FTA – FFGA Criteria

- **System Capacity**
4-Car trains offer a 2% peak period increase in system capacity without increasing the fleet size and provides better servicing of the “peak-of-the-peak” passenger demand as requested by PMOC.
- **Ridership Forecast**
FFGA ridership forecast was 99,800 in opening year and 114,400 in 2030 based on a 2.4 minute headway. When using the latest rail attributes allowed by FTA, with headways of 5.6 minutes in the opening year and 4.7 minutes in 2030, the ridership forecast is now 104,300 and 119,600 respectively, a 5% increase.
- **Cost and Schedule**
Overall cost reduction is expected and no impact to system opening schedule.