GWRC Bus and Rail Patronage, Revenue and Costing Analysis

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Quality for Life

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Rail Data

- Survey data from WPTM model build & WPTM demand matrices

- Estimates of patronage, revenue and pax km by:

  - Time period (AM, IP), Service & Segment;

  - Passenger (Adult / Child / Supergold) and Fare (Cash, 10-trip, monthly); and

  - Annualized to obtain yearly estimates

- Controlled at a line level to GWRC patronage and revenue - 12/13 totals

- Costings obtained from GWRC

  - Operating costs - allocated by service / line

  - Capital costs – allocated proportionately

- Outputs ➜ Op Costs, Revenue, Subsidy, Cost Recovery by Service & Segment

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Bus Data

- ETM data used for WPTM model build

- Estimates of patronage / revenue and pax km by:

  – Time period & Line

  – Passenger (Adult / Child / Supergold) and Fare (Purse, Cash, Other)

  – Across whole region, inc school buses

- Controlled to GWRC patronage and revenue 12/13 totals and used as input to BPM

- Costings obtained from GWRC

  – Allocated to line / area

  – Input into BPM

  – Validated against GWRC costings

- Outputs from BPM ➔ Op Costs, Revenue, Subsidy, Cost Recovery by Area

Rail All Day, Service, Pax v Avg TL

Rail, All Day, By Service: Cost / Pax, Revenue / Pax and Cost Recovery

Released under LGOIMA, data not current
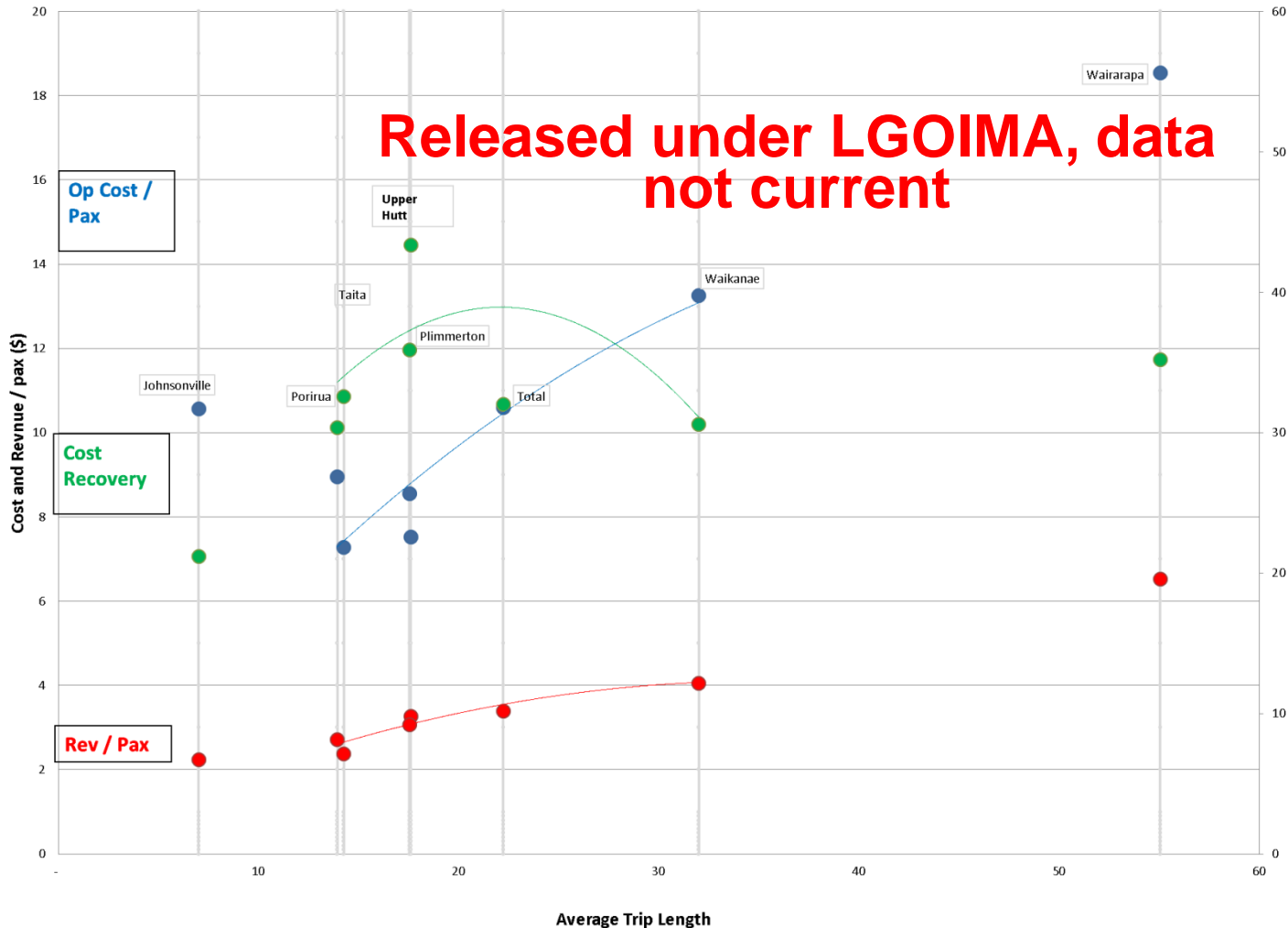
Rev / Pax

Linear relationship with Avg TL

Op Cost / Pax

WRL = High

Por / Tai / Plim = Low

Linear

Diverging from Rev / Pax

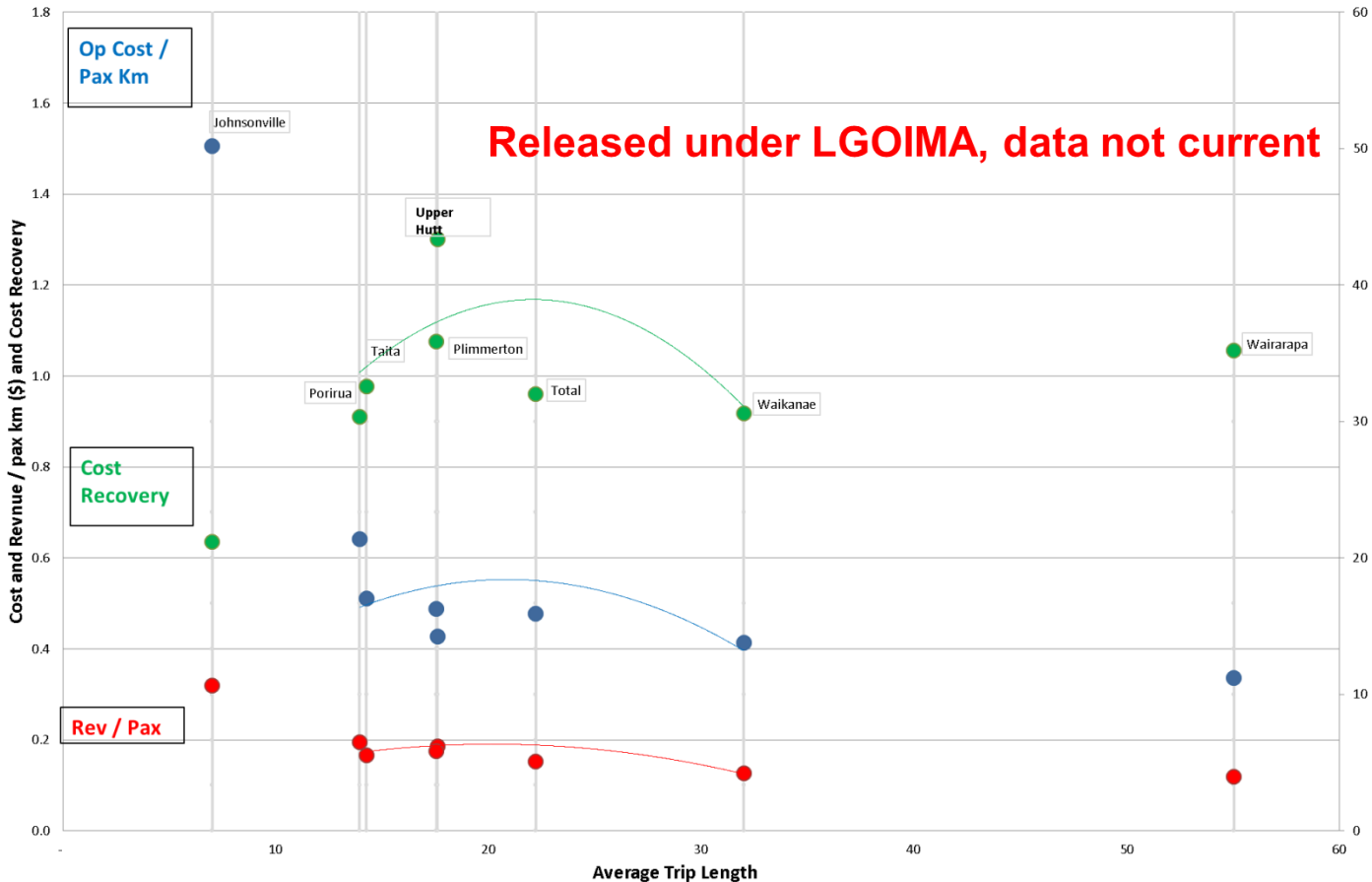Cost Recovery

Between 30% to 43%, Avg = 32%

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Rail All Day, Service, Pax Km v Avg TL

Rail, All Day, By Service: Cost / Pax Km, Revenue / Pax Km and Cost Recovery

Released under LGOIMA, data not current

Rev / Pax Km

Decrease with Avg TL

Op Cost / Pax Km

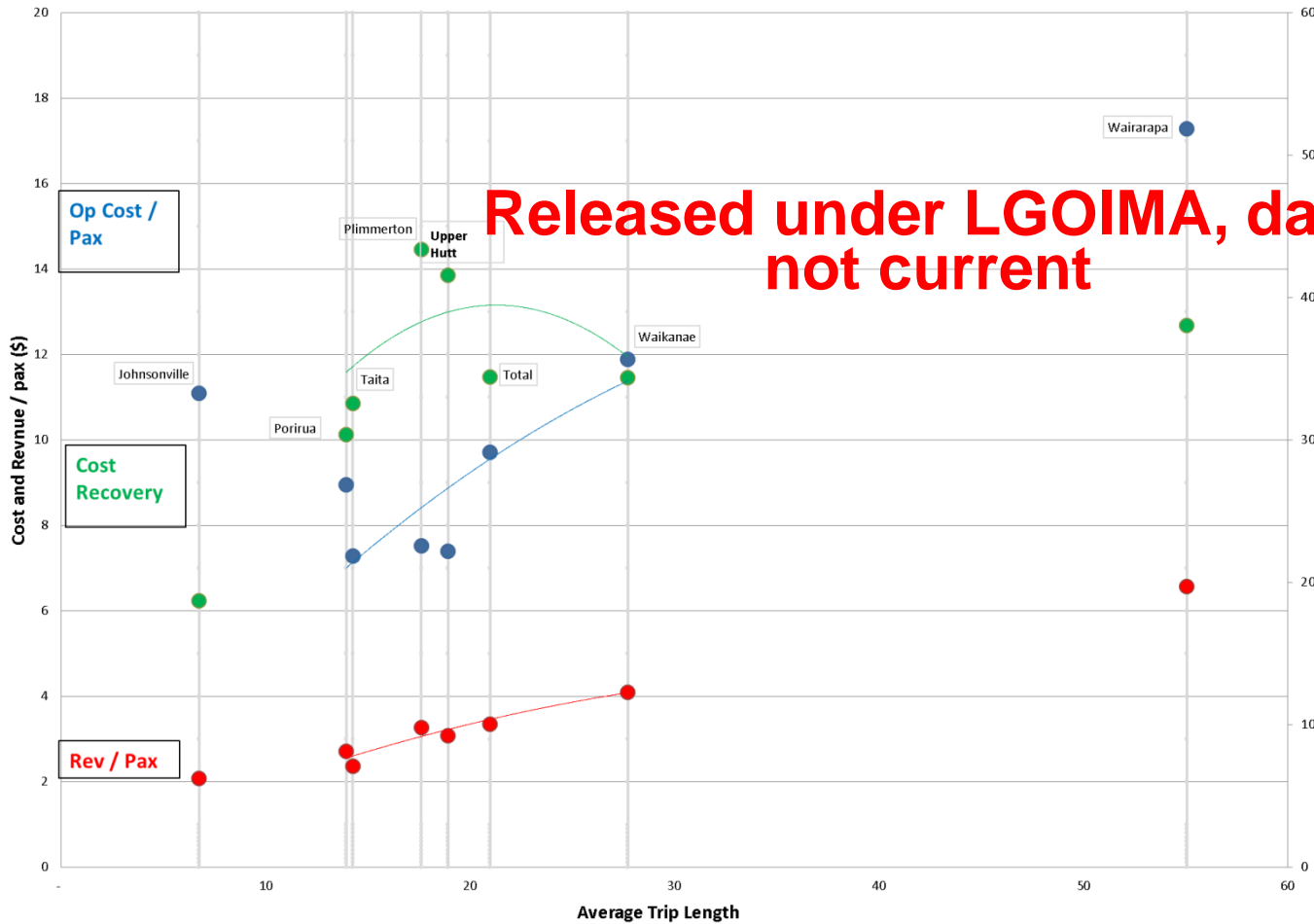Decrease with Avg TL.

Higher than Rev / Pax Km

Cost Recovery

As per previous slide

Rail Peak, Service, Pax v Avg TL

Rail, Peak, By Service: Cost / Pax, Revenue / Pax and Cost Recovery

Released under LGOIMA, data not current

Rev / Pax

Linear Relationship with Avg TL

Op Cost / Pax

Linear Relationship with Avg TL

Cost Recovery

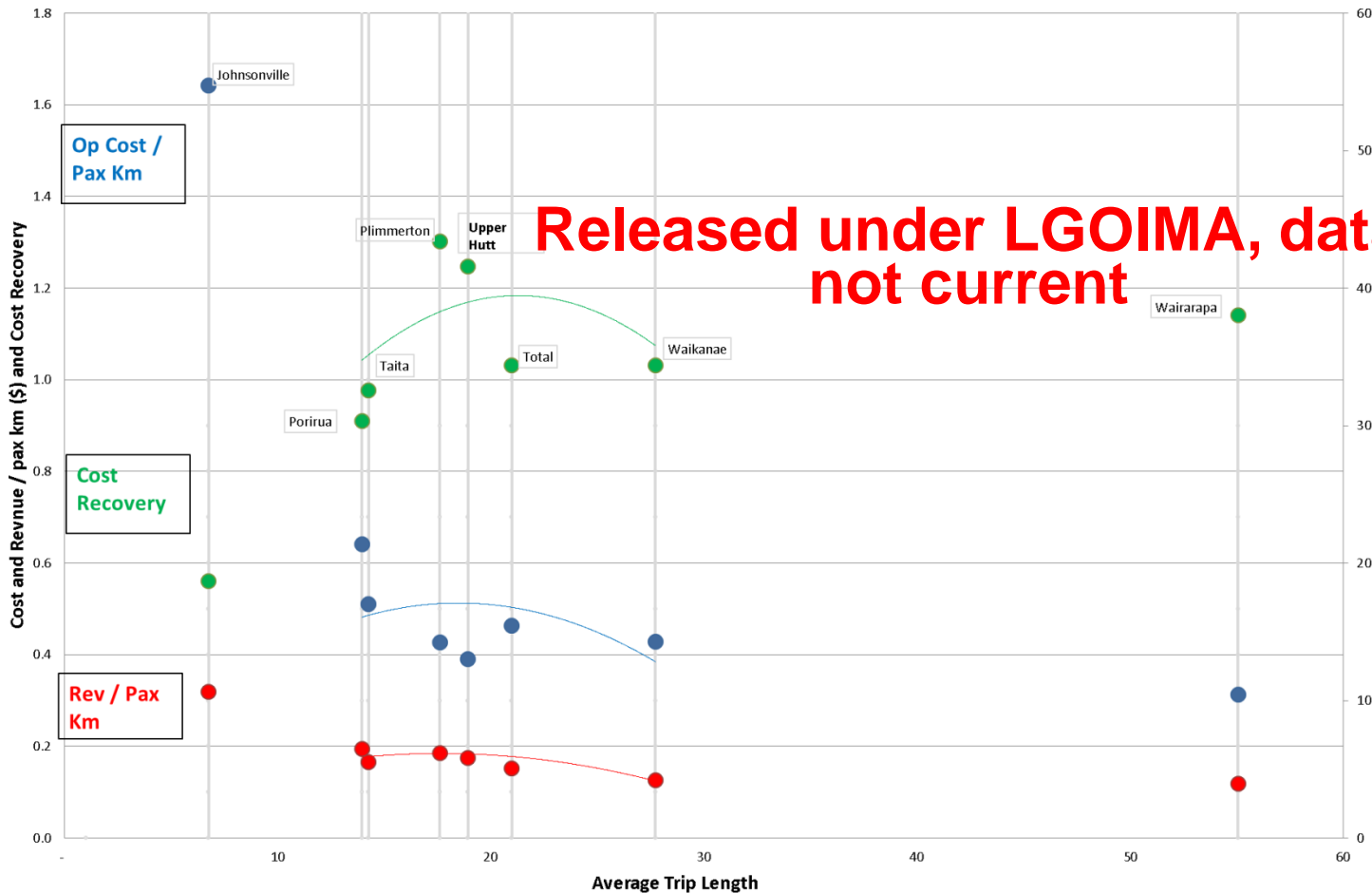Marginally higher than all day

JVL = Low

Medium distance lines (UH, Plim) = Best

Rail Peak, Service, Pax Km v Avg TL

Rail, Peak, By Service: Cost / Pax Km, Revenue / Pax Km and Cost Recovery

Released under LGOIMA, data not current

Rev / Pax Km

Decrease as TL increase

Op Cost / Pax Km

Avg TL Increases, Op Cost / Km Decreases

JVL = High Op Cost / Pax Km
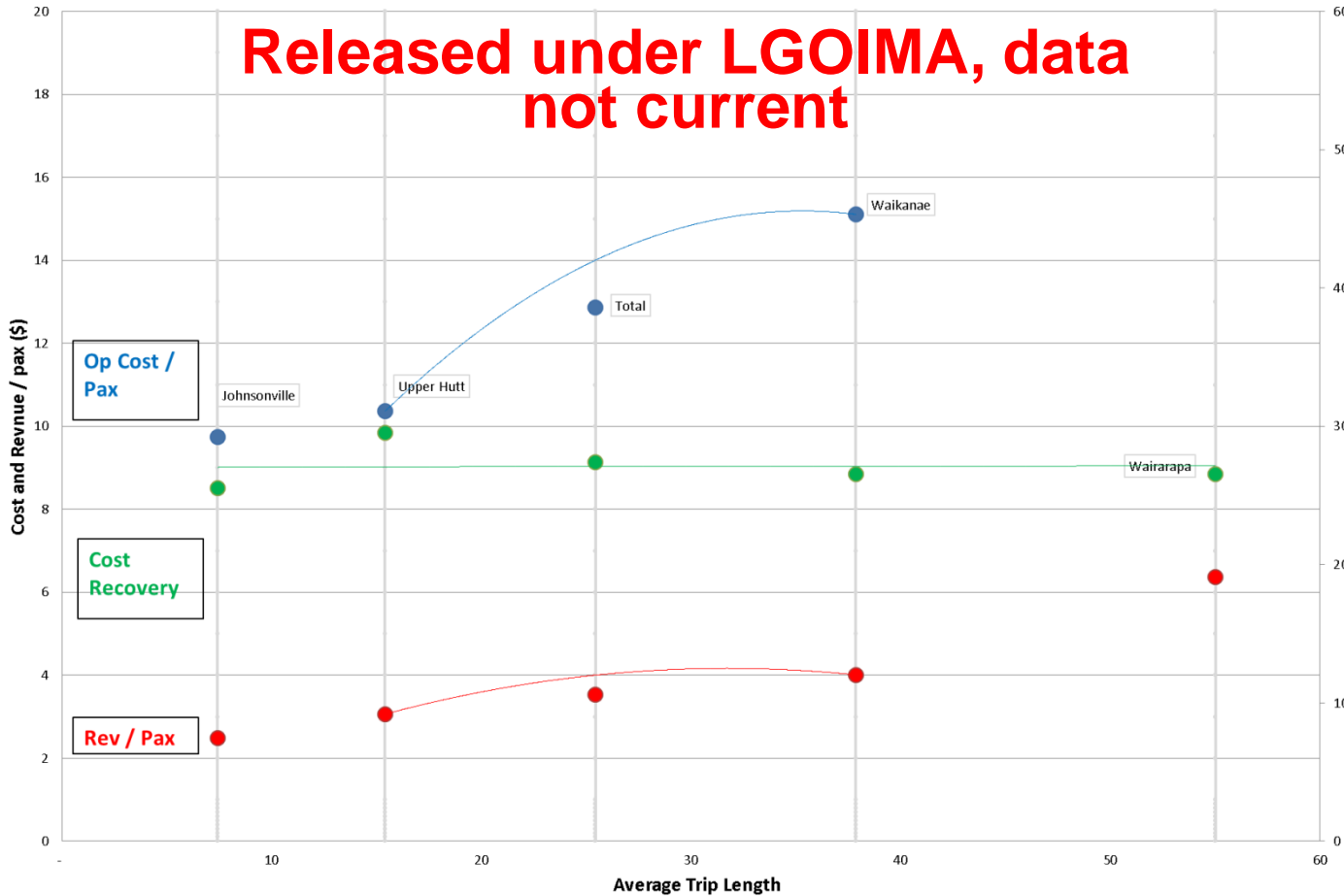
Cost Recovery

As per previous slide

Rail Off Peak, Service, Pax Km v Avg TL

Rail, Off-Peak, By Service: Cost / Pax, Revenue / Pax and Cost Recovery

Released under LGOIMA, data not current

Chart labels: Waikanae, Total, Johnsonville, Upper Hutt, Wairarapa, Op Cost / Pax, Cost Recovery, Rev / Pax

Y-axis: Cost and Revnue / pax ($)
X-axis: Average Trip Length

Rev / Pax

Increases with Avg TL

Op Cost / Pax

Increases with Avg TL

Faster rate of increase than Rev / pax

Cost Recovery

27 to 29% across all lines

Flat
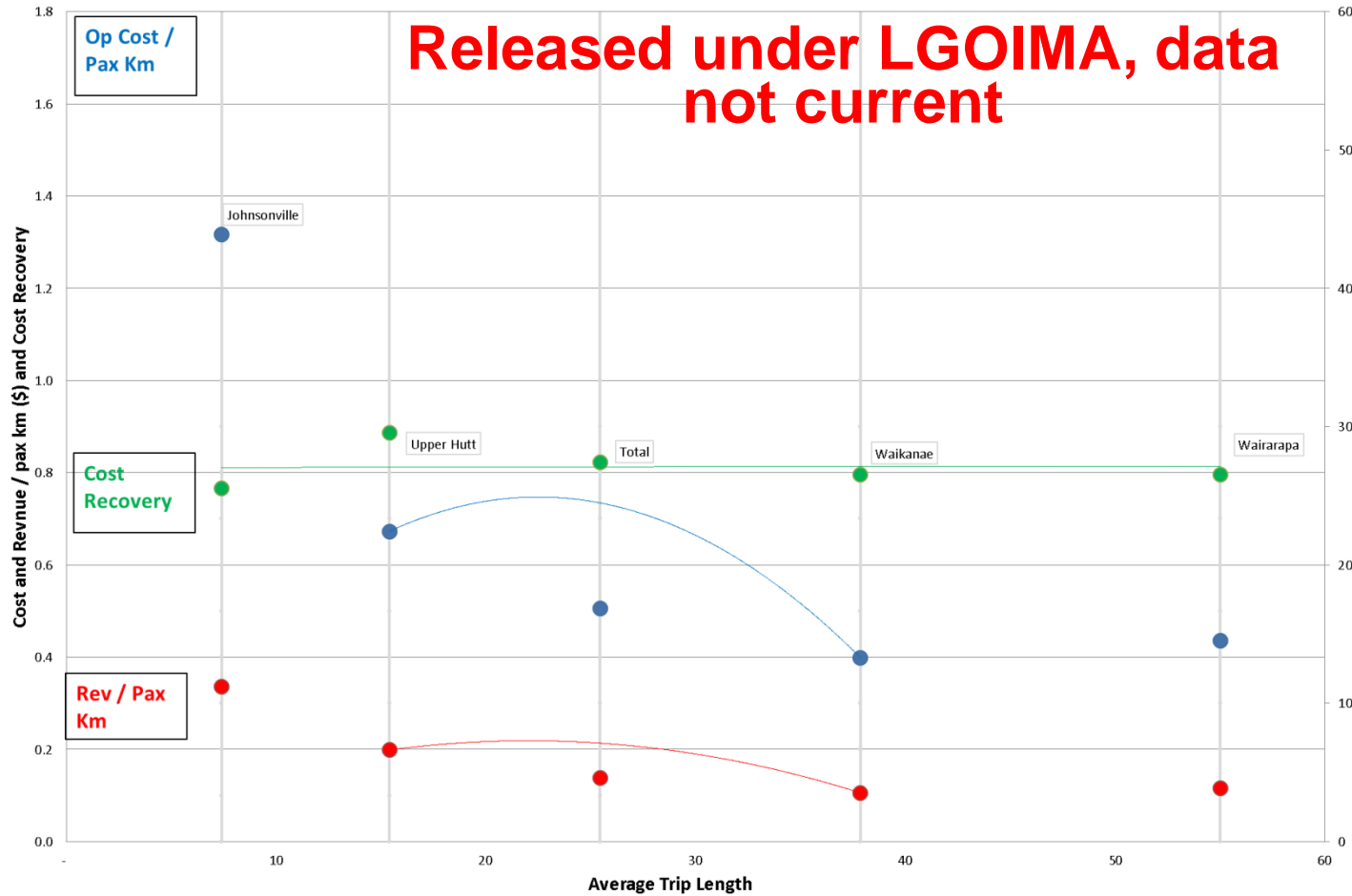
Less than Peak

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Rail Off Peak, Service, Pax Km v Avg TL

Rail, Off-Peak, By Service: Cost / Pax Km, Revenue / Pax Km and Cost Recovery

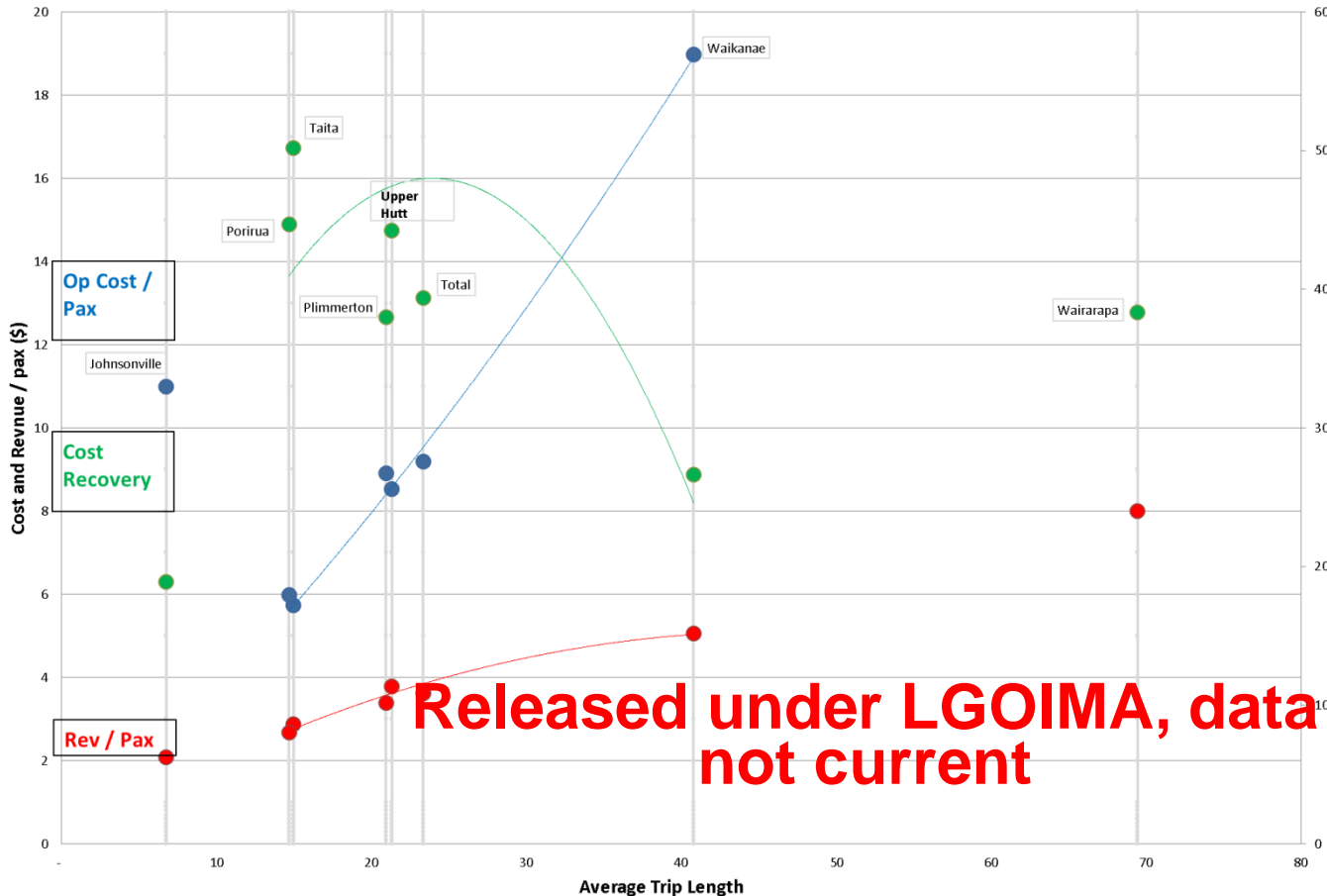**Released under LGOIMA, data not current**

Op Cost / Pax Km

Johnsonville

Cost Recovery

Upper Hutt

Total

Waikanae

Wairarapa

Rev / Pax Km

Cost and Revnue / pax km ($) and Cost Recovery

Average Trip Length

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Rail Peak, Segment, Pax v Avg TL

Rail, Peak, By Segment: Cost / Pax, Revenue / Pax and Cost Recovery

Rev / Pax

Increases with Avg TL

Op Cost / Pax

Increases with Avg TL

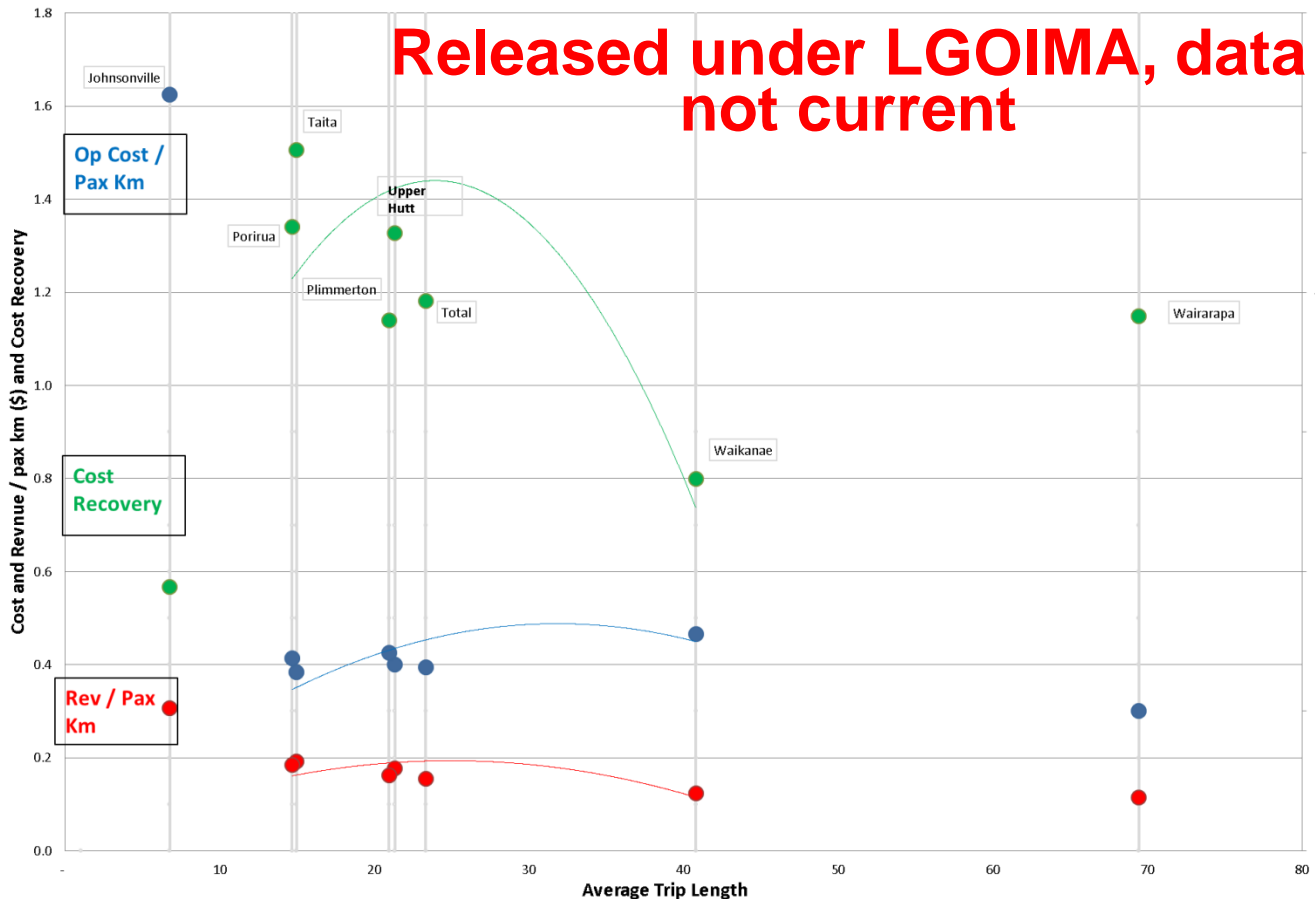Faster rate of increase than Rev / pax

JVL = Outlier

Cost Recovery

Lower Avg TL = Higher Avg Load Factors

CR = Higher for shorter segments

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Rail Peak, Segment, Pax Km v Avg TL

Rail, Peak, By Segment: Cost / Pax Km, Revenue / Pax Km and Cost Recovery

Released under LGOIMA, data not current

Rev / Pax Km

Decreases with Avg TL

Op Cost / Pax Km

Decreases with Avg TL

Waikanae Segment = High cost / pax km

Cost Recovery

Shorter segments = higher CR

Apart from JVL

Waikanae = Lowest CR

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Summary Rail

- Rail CR = ~35%

- Service analysis:

    – Rev / pax and Op Cost / Pax increase as Avg TL increase

    – Diverging trends: Difference between Rev / pax and Op Cost / pax increases as Avg TL increases

        – Subsidy required increases as Avg TL increases

    – Little variation in CR (apart from JVL)

    – Peak CR ➔ Higher than Off-peak CR (not by much)

- Segment analysis:

    – Shorter segments (Por-WLG, Waterloo-WLG) ➔ Higher CR

        – Higher Load Factors on shorter segments, therefore costs go down

    – Waikanae / Wairarapa ➔ High costs, Fewer boardings, lower load factor relative to shorter segments

        – Lower CR

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Bus Data – All Day, Pax v Avg TL

Bus, All Day, By Area: Cost / Pax, Revenue / Pax and Cost Recovery vs Average Trip Length

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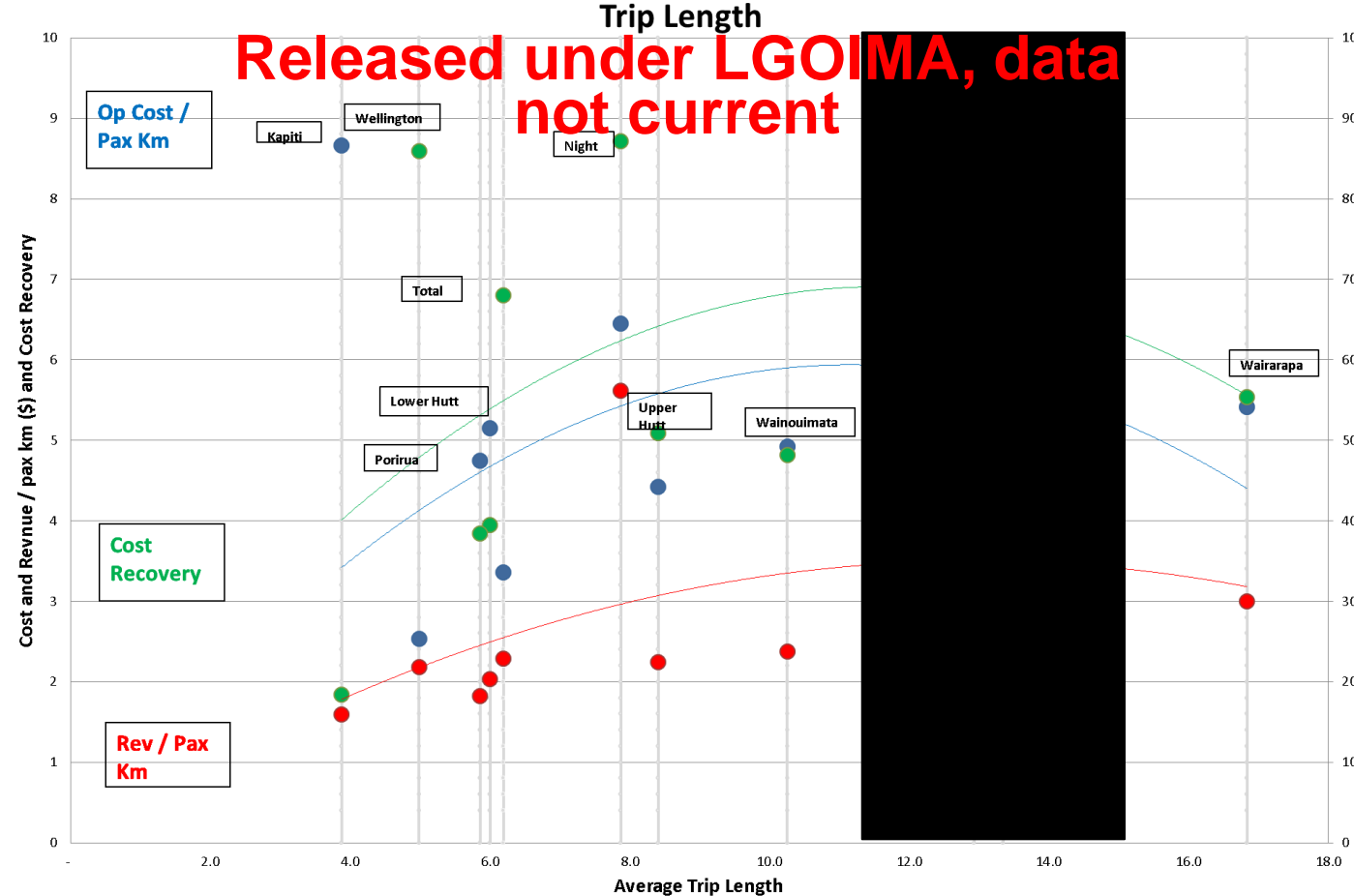
Rev / Pax

Other areas, rev / pax proportional to Avg TL

Op Cost / Pax

Kap / Night = High
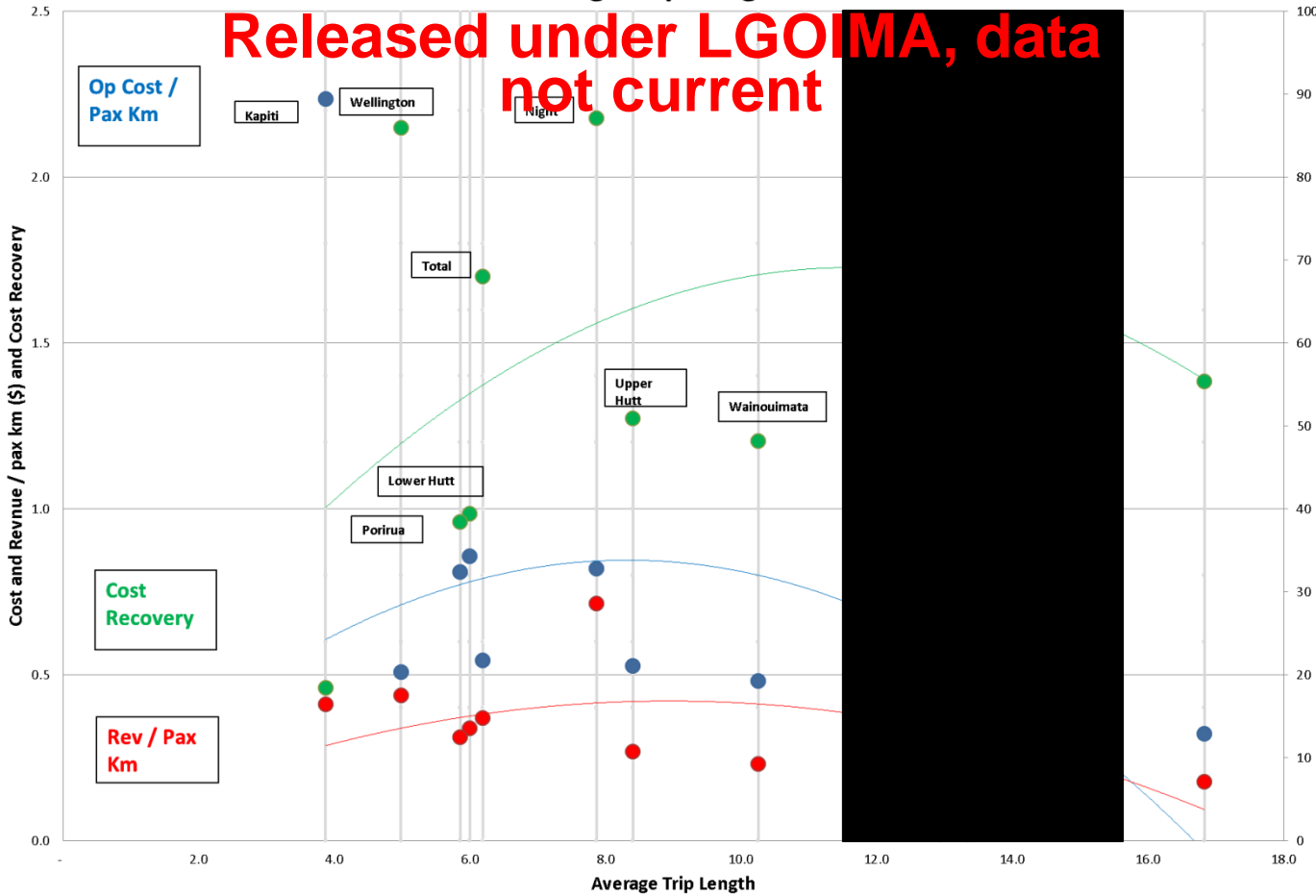
WLG / LH / Por = Low

Cost Recovery

WLG / Night = Highest

Kap / Por = Low

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Bus Data – All Day, Pax Km v Avg TL

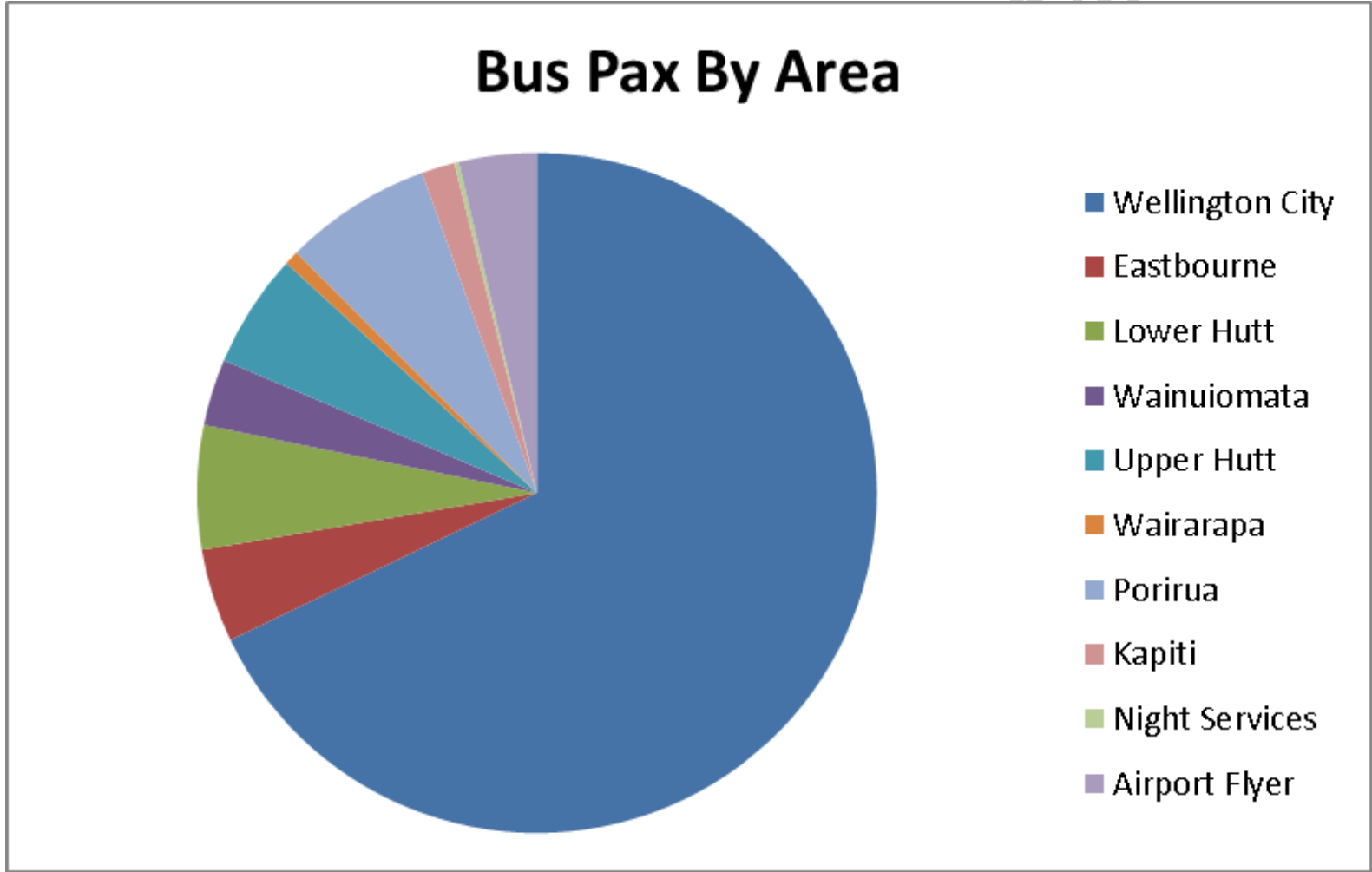Bus, All Day, By Area: Cost / Pax Km, Revenue / Pax Km and Cost Recovery vs Average Trip Length

Released under LGOIMA, data not current

- Rev / Pax Km

  Decrease as pax km increases

- Op Cost / Pax Km

  Decreases as pax km increases

  Rate of decrease greater than rev / pax km

- Cost Recovery

  As per previous slide

  WLG & Long Distance trips = best CR

Bus Data – Pax By Area

Bus Pax By Area

- Wellington City
- Eastbourne
- Lower Hutt
- Wainuiomata
- Upper Hutt
- Wairarapa
- Porirua
- Kapiti
- Night Services
- Airport Flyer
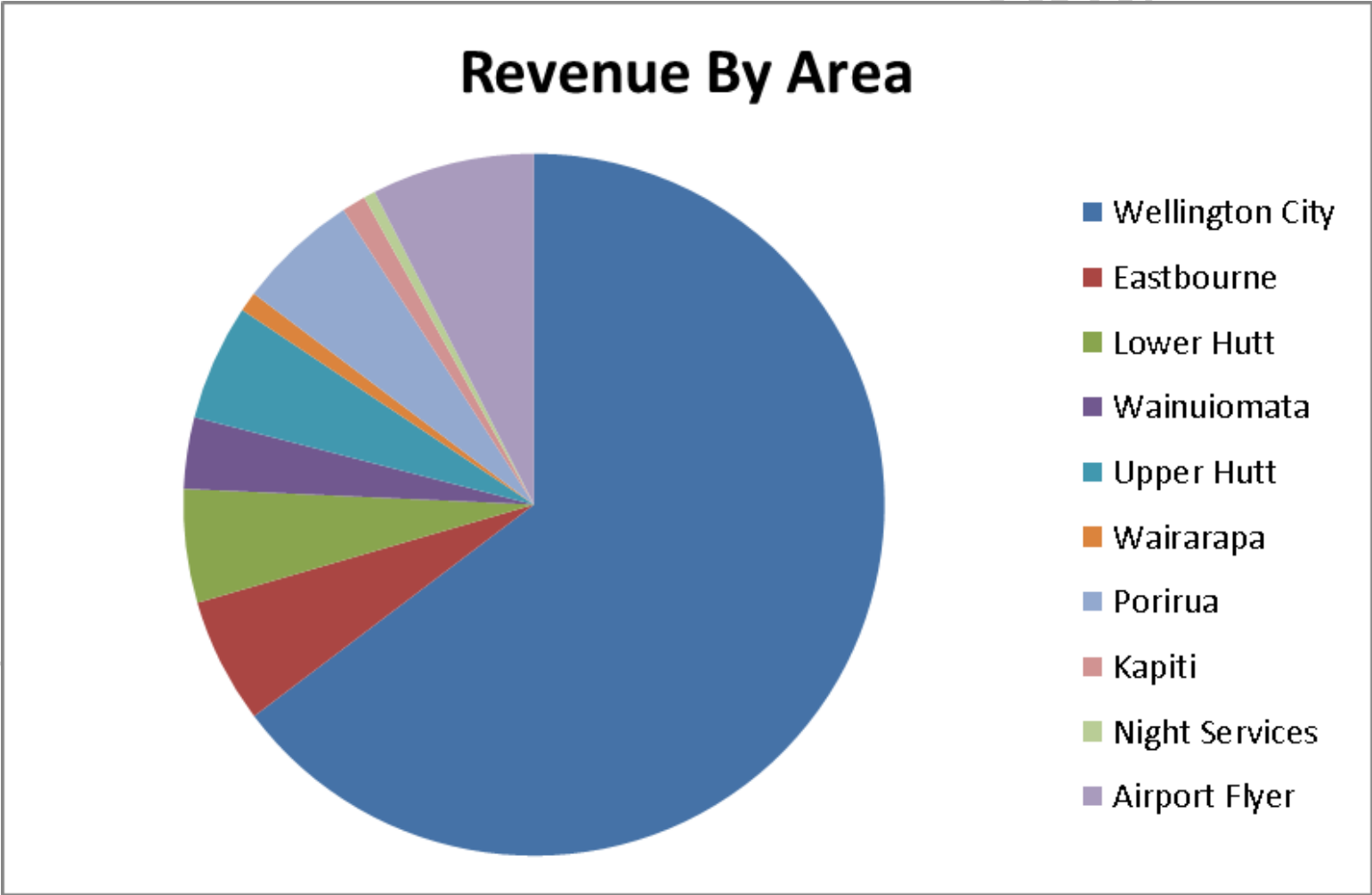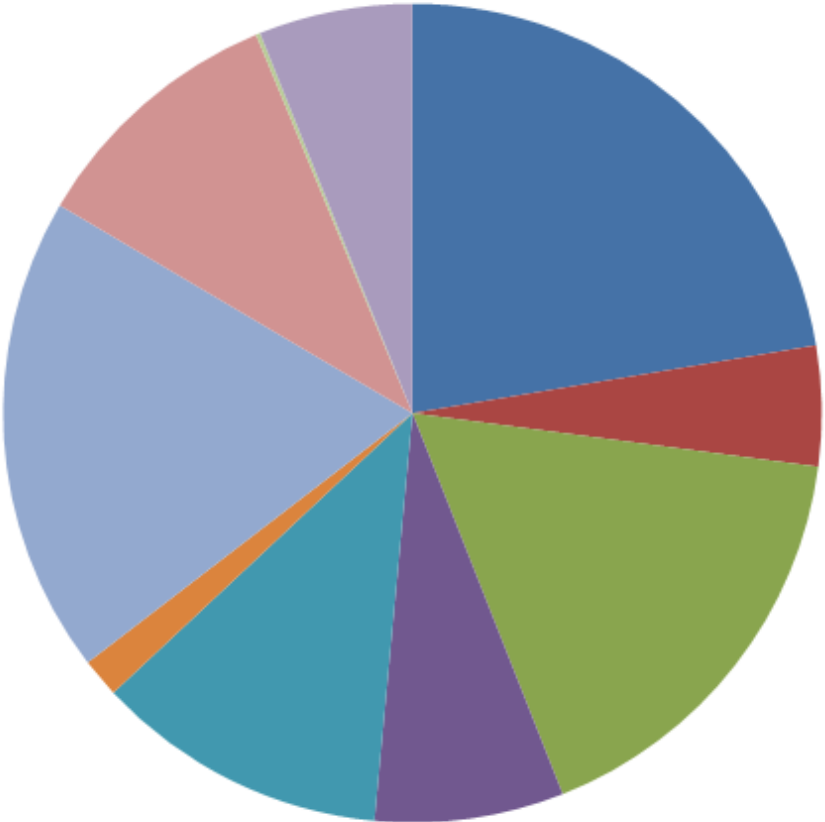
Bus Data – Revenue By Area

Bus Data – Funding By Area

Funding By Area

- Wellington City
- Eastbourne
- Lower Hutt
- Wainuiomata
- Upper Hutt
- Wairarapa
- Porirua
- Kapiti
- Night Services
- Airport Flyer

Summary Bus

- Bus CR = ~68%

  – WLG and longer distance services ➜ Highest CR

  – Short distance (Kap, Por, LH) services ➜ Lowest CR

- ██████████████████████████████████

- Urban centers – WLG = high CR, Por / Kap = Low CR

- ██████████████████████████████████

- Wellington

  – 70% pax, 65% rev, 25% funding

- Rest of region

  – 30% pax, 35% rev, 75% funding

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Rail & Bus– All Day, Pax v Avg TL

Rail & Bus Combined, All Day, By Segment: Cost / Pax, Revenue / Pax and Cost Recovery

Released under LGOIMA, data not current

Chart axes: "Cost and Revnue / pax ($) and Cost Recovery" (vertical), "Average Trip Length" (horizontal). Labelled data series: Cost Recovery, Op Cost / Pax, Rev / Pax.

Side panel:
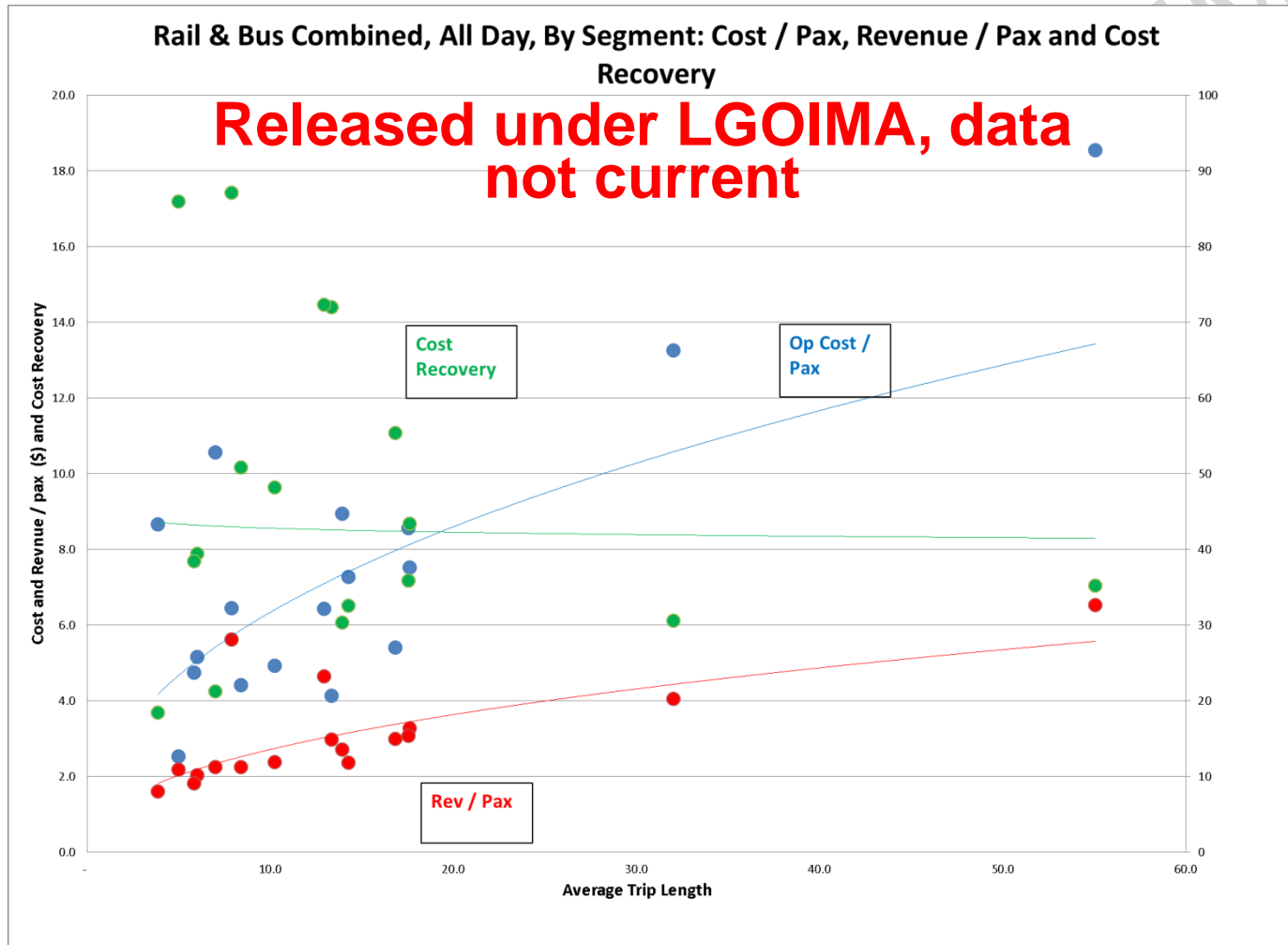
Rev / Km

Noticeable trend

Avg TL inc; Rev / KM inc

Op Cost / Pax Km

Weak trend

Op Cost / Km and Rev / Km diverge

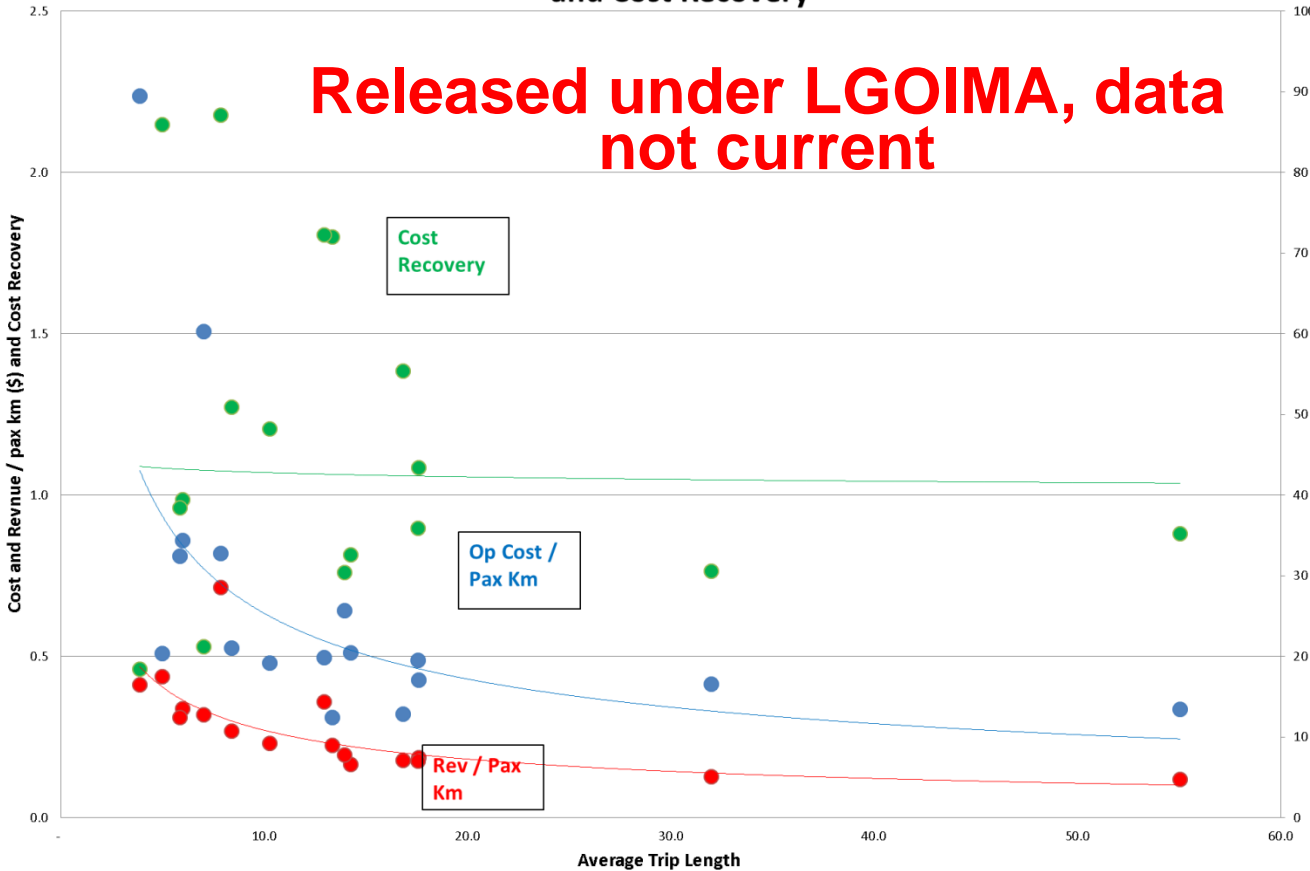Avg TL increases, diff between Op Cost / Km and Rev / Km increases

Cost Recovery

No real trend

Short TL = Higher CR

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Rail & Bus– All Day, Pax Km v Avg TL

Rail & Bus Combined, All Day, By Segment: Cost / Pax Km, Revenue / Pax Km and Cost Recovery

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Cost Recovery

Op Cost / Pax Km

Rev / Pax Km

Y-axis (left): Cost and Revenue / pax km ($) and Cost Recovery
X-axis: Average Trip Length

Rev / Pax Km

Noticeable trend

Op Cost / Pax Km

Weak trend

Avg TL increases, Rev / Pax Km and Op Cost / Pax Km decreases

Cost Recovery

No real trend

Shorter TL = Higher CR

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Overall Summary

- Network wide CR = ~60%

- Rail = lower CR than bus

    – Rail = 35%

    – Bus = 67%

- JVL line = lowest CR for rail

- Shorter rail segments (Por, Taita to WLG) = highest CR

- ████████████████████████████████████

- Bus – rest of region ➔ 35% pax, 70% subsidy

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Thank you for listening. Any Questions?

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