Overview

Module ID N/A

Purpose

The WW ACES team have created and assigned Benchmark Headroom targets per Node across WW operations.

Scope

WW Operations

Introduction

To support delivery to BM target, this Standard Operating Procedures links key dashboards created to support root cause identification and operational Process Steps required to deliver to plan.

Key Definitions

Definitions

Optimal DPPH- Optimal DPPH is total DPPH that can be achieved through the volume gained from reduction in misses in Headroom, Attainment, Offsite Parking, and Nursery Compliance.

All In DPPH- Total DSP DPPH based on total paid hours that include training paid hours + on road paid hours.

Attainment- Attainment is the percentage of the packages that are delivered by AMZL out of all the packages delivered in an AMZL jurisdiction.

Headroom Leakage- DPPH volume opportunity that can be gained from the Headroom.

Overstaffing Leakage- DPPH volume opportunity that can be gained from the Headroom - Overstaff Minutes that are calculated by excluding Headroom minutes like RGU, Forced to Class X, Stop Cap, Time Out , Container Size, Extra Time, Cube Out from the total Headroom Minutes.

Time Out Leakage- DPPH volume opportunity that can be gained from the Headroom - Time-out where the Headroom is less than the time needed for an extra sort Zone (calculated as average time per sort Zone).

Cube Out Leakage- DPPH volume opportunity that can be gained from the Headroom - Cubeout where the remaining cube in the van is less than the average cube per sort Zone and the Headroom is positive and bigger than the time needed for an extra sort Zone.

Nursery Compliance Leakage- DPPH volume opportunity that can be gained from the nursery routes that were not required.

Extra Time Leakage- DPPH volume opportunity that can be gained from the Headroom - Extra Time. Extra Time Headroom minutes occur when plan input minutes < plan output minutes.

Container Size Leakage- DPPH volume opportunity that can be gained from the Headroom - Container Size where Headroom is at least 40 minutes and the time needed for an extra sort Zone > 60 minutes (calculated as average time per sort Zone).

StopCap Leakage- DPPH volume opportunity that can be gained from the Headroom - Stop Cap with positive Headroom and number of stops exceeding 21 per hour.

Measurement Methodologies

OTR Cost

Metric	Standard	Definition	Formula	Link
Deliveries per Paid Hour (DPPH)	-	The number of completed deliveries over the hours paid for the provider (DSP/ Amazon Flex) for a single day.	Total Delivered Packages / Total Completed Paid Hours	
Optimal DPPH	-	The number of completed deliveries compared to total paid hours per provider for a single day predicted from the volume gained from reduction in misses in Headroom, Attainment, Offsite Parking, and Nursery Compliance.	Optimal DPPH = Planned Dispatched DPPH + Attainment Leakage + Offsite Parking Leakage + Overstaffing Leakage + Time Out Leakage + Cube Out Leakage + Nursery Compliance Leakage)	
% Actual to Optimal DPPH	>80%	Percentage comparison of actual DPPH performance as compared to optimal DPPH measuring Amazon Logistics execution in reducing leakage and optimizing OTR cost.	Actual DPPH / Optimal DPPH	

Metric	Standard	Definition	Formula	Link
Attainment Leakage	>80%	DPPH volume opportunity that can be gained from the volume lost as compared to top line capacity. Attainment is dependent of predicted capacity of several different areas; ATROPS, Under the Roof (UTR), On the Road (OTR), …	Attainment Leakage = Service Miss Leakage + Station Cap Leakage	
Service Miss Leakage	>80%	DPPH Impact of packages that were pushed to 3rd party in the event upstream network connection exists, but not in time for the package to be delivered to the Amazon Logistics in time to meet customer promise.		
Station Cap Leakage	>80%	DPPH impact of packages that were available to AMZL within a given jurisdiction, but there was insufficient AMZL Capacity to delivery them (i.e. mechanical capacity, station tactical capacity.)		
Nursery Compliance Leakage	>98%	DPPH volume opportunity that occurs due to veteran Delivery Associates executing unnecessary nursery routes.	Delivery Rate per minute * Hours Opportunity in veteran Nursery Route Execution Delivery Rate per minute = planned volume/ planned hours *60	
Headroom Leakage	<5%	DPPH volume opportunity created from underutilized capacity for On Road Execution (i.e. Cube Out, Time Out, Overstaffing, RGU, Nursery Route)		

Roles and Responsibilities

Responsible	Accountable	Consulted	Informed
Area Manager (L4/L5)	OTR Ops Manager	OTR Ops Manager	Site Leader/UTR Stakeholders

Standard

Tools, Equipment, Software Needed

- Route Headroom Summary Dashboard (Wiki)
- Hyperzone Recommendations Dashboard (Wiki)
- Hyperzone Improvement Standard Operating Procedures
- Cube Out Trigger LWB Dashboard Plan vs. Actual
- Headroom Deep Dive Dashboard
- Routing Tools Website
- Plan vs. Actual Headroom Deep Dive v2 Dashboard

Process Map

Headroom Deep Dive SOP Process Map

Process Description - Headroom Deep Dive Standard Operating Procedures

1. Root Cause Identification

Review the Route Headroom Summary Dashboard to identify root cause buckets with largest opportunity for Headroom reduction.

Defintions for each bucket can be found in the corresponding wiki.

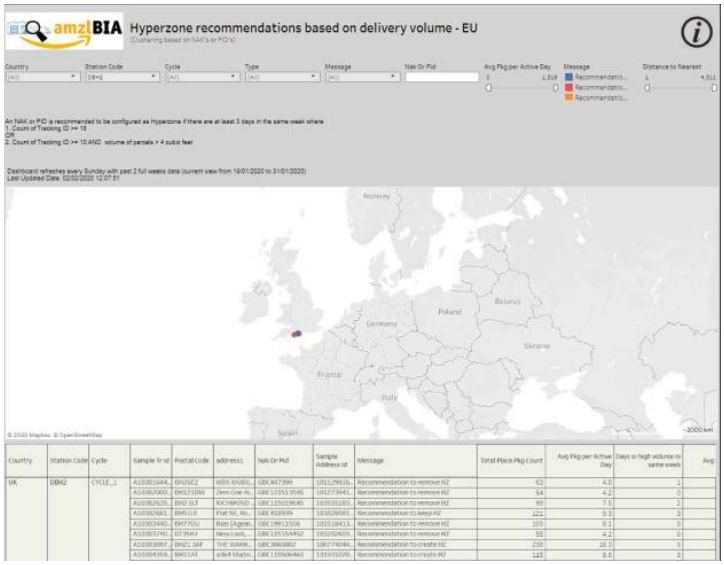
Station Code[+]		Year Week[+] 2019-52	2020-01	2020-02	2020-03	2020-04
DXE1	Extra Time Headroom%	-0.12%	-0.09%	-0.11%	-0.16%	-0.06%
	Timeout Headroom%	1.47%	1.71%	1.37%	1.32%	2.05%
	Stopcap Headroom%					
	Container Size Headroom%	0.06%	0.12%	0.16%	0.10%	0.20%
	Cubeout Headroom%	0.29%	0.36%	1.10%	1.07%	0.38%
	Cubeout LWB Headroom%	0.25%	0.29%	1.06%	1.00%	0.38%
	Overplan Headroom%	10.65%	8.99%	8.54%	7.23%	3.13%
	Overall Headroom	12.35%	11.09%	11.05%	9.56%	5.69%

Route Headroom Summary Dashboard

2. Cube-Out

1. Review Hyperzone (HZ) Opportunity

1. Visit the HZ Recommendations Dashboard.
2. Check the bulk addresses to be added/removed from HZs in your DS.
3. Follow the Hyperzone Improvement Standard Operating Procedures to implement changes.



Cube-Out

2. Review Vehicle Type Optimization Opportunity

Visit the 'Cube Out Trigger LWB' Dashboard. This view shows the number of LWB vans that should be added to a DS fleet, at a DSP level.

		Year Week[+] / Date									
		2020-02		2020-03						2020-04	Grand Total
DS[+]	DSP[+]	1/9/2020	1/10/2020	1/13/2020	1/14/2020	1/15/2020	1/16/2020	1/17/2020	1/18/2020	1/19/2020	
DXE1	ATAC	2	1	1			3	1			8
	CTCE	1	2	2	3		3	2		3	16
	CWTL				1						1
	GREY		1								1
	NGH	3		3		2	1		1		10
	PACN			1							1
	PNSL	1		3	1			2	1		8
	RADL			2	1			6	2		11
	WCDL		1	3	1		1	3			9

Review Vehicle Type Optimization Opportunity

- *For EU: Supply large vehicle requirements by DSP to your local DSP Account Manger for procurement. Lead-time agreed = 2 weeks.*
- *For NA: supply large vehicle requirements to julcarli@ via SIM for prioritization of large fleet deployment. Lead- time agreed = 3 weeks.*

3. Update Scheduling UI and Local CO Team

Once vehicle arrival dates are confirmed, update Scheduling UI and local CO team to ensure both forecasting and scheduling are aligned with vehicle type changes.

3. Overplan

1. Determine Root Cause for Overplanning of Routes
2. Visit the Plan vs. Actual Headroom Deep Dive v2 Dashboard.
3. Filter 'Headroom Root Cause' for 'Overstaffing' and 'RGU Config'.
4. Use a day level view to identify which day(s) & Cluster(s) are driving the overplan bucket. The RAG colour coding within cells will help visually identify defects.

PvA - Headroom Deep Dive v2

Headroom Root cause	Station Code **	Cluster **	Date **	Headroom	# Flex Routes	# of Core DSP routes routed	# of routes cubing out	Extra Volume needed to save headroom	Routes to be removed to save headroom	Package Cap	Route Planner Input minutes (E)	Route Planner OnRoad Minutes (F)	Adjusted Actual Onroad Minutes (G)	% Routes having Pkg Cap Headroom (H1)	% Routes having Cube Out Headroom (H2)	% Routes having Time Out Headroom (H3)	% Routes having RGU configuratio.	% Routes having Overstaffing Related Headroom (HS)
Over Staffing	DLA9	CX	02/02/2020	4.60%	0	120	28	1,475	6	-	520	498	502	0.00%	23.33%	55.00%	0.00%	21.67%
		DEX	02/02/2020	87.11%	0	1	0	65	1	-	540	178	133	0.00%	0.00%	0.00%	0.00%	100.00%
		CT	02/02/2020	49.09%	0	1	0	52	0	-	520	265	246	0.00%	0.00%	0.00%	0.00%	100.00%
			03/02/2020	35.32%	0	1	0	55	0	-	520	336	354	0.00%	0.00%	0.00%	0.00%	100.00%
		CV	02/02/2020	6.61%	0	10	0	163	1	-	520	486	531	0.00%	0.00%	50.00%	0.00%	50.00%
RGU Config	DLA9	MX	02/02/2020	1.36%	40	100	1	272	1	-	456	452	476	0.00%	1.00%	91.00%	8.00%	0.00%
			03/02/2020	0.58%	17	111	0	125	1	-	456	455	484	0.00%	0.00%	96.40%	3.60%	0.00%
Grand Total				2.97%	57	344	25	2,279	10	-	482	468	487	0.00%	3.48%	41.77%	1.66%	53.10%

5. Analyse Routing's Output
6. Once specific days have been identified, visit Routing Tools Website (RTW) to analyse routing's output. Use the 'Recent Routes' function to get this view:

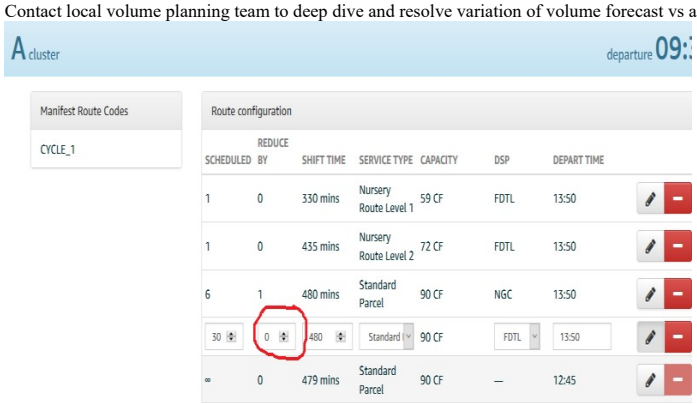
7. Does RTW highlight overplan within specified Cluster on date identified?

ROUTE CONFIGURATION

Service Type	DSP	Shift time	Requested Routes	Depart Time	Planned Routes	SPR
Nursery Route Level 1	NGC	330	6	12:45	6	49
Nursery Route Level 2	NGC	435	4	12:45	4	41
Standard Parcel	NGC	480	11	12:45	9	68
Standard Parcel	FDTL	480	20	12:45	16	71
Standard Parcel	—	479	∞	12:45	0	0
Total	-	-	-	-	35	62

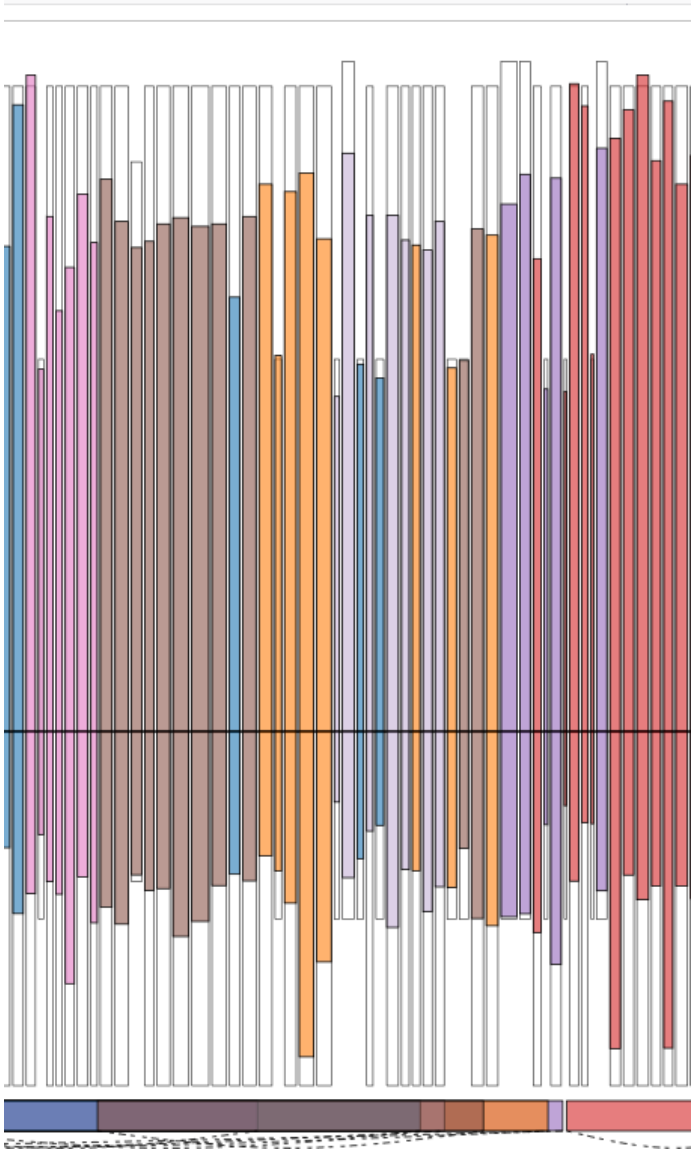
If YES: Check the 'Route Planning' tab within RTW to ensure 'reduce by' accounts for at least (EU: 20% & NA: 25%) of the scheduled routes used per DSP for all 'standard' service types.

1. If less than correct 'reduce by' is used, contact local CO team to escalate and amend for following day OFD.
2. If correct % reduce by used but not sufficient: CO to conduct pre-cuts where actual volume.
3. >500 less than forecast. Cuts to be applied evenly across all DSPs before sequencing is run.
4. Contact local volume planning team to deep dive and resolve variation of volume forecast vs actuals.



If NO: Open the Cluster plan overview. Visually identify the routes and DSPs where neither time or cube constraints are met.

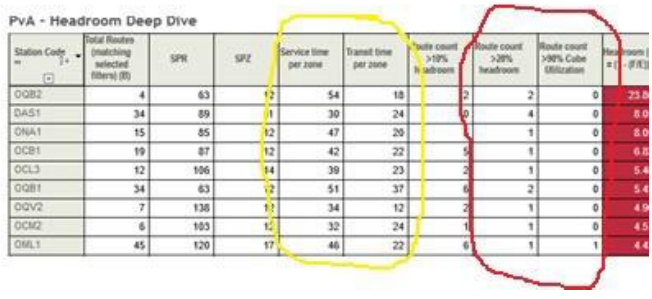
1. If the overview shows DSP routes being planned outside of their preferred areas, raise a SIM to CO to amend JAS jurisdiction polygons to align route counts & volume per polygon.
2. As shown in the supporting image, this can be identified where:
    - DSP routes (vertical lines) fall outside of their preferred area (horizontal line at the bottom), with colours representing a DSP.



Cluster Plan Overview

Time-Out & Container Size

1. Visit the Plan vs. Actual Headroom Deep Dive Dashboard.
2. If the sum of transit & service time per Zone.
3. >60 minutes, reach out to your local ACES team to execute a soft cap reduction.
4. If service time < 60 minutes per Zone, await Variable Hours/Puzzle deployment to solve.



PvA - Headroom Deep Dive

Station Code	Total Routes (matching selected filters) (0)	SPR	SPZ	Service time per zone	Transit time per zone	Route count >10% headroom	Route count >20% headroom	Route count >90% Cube Utilization	Headroom
OQB2	4	63	12	54	18	2	2	0	23.8
DAS1	34	89	11	30	24	0	4	0	8.0
ONA1	15	85	12	47	20		1	0	8.0
OCB1	19	87	12	42	22	5	1	0	6.8
OCL3	12	106	14	39	23	2	1	0	5.4
OQB1	34	63	12	51	37	6	2	0	5.4
OQV2	7	138	11	34	12	2	1	0	4.9
OCM2	6	103	12	32	24	1	1	0	4.5
OML1	45	120	17	46	22	6	1	1	4.4

Time-Out & Container Size

Resources

[Cost Tool Box]

Headroom

Daily Capacity Utilization/Headroom Dashboard

Hyperzone Recommendation Dashboard (Wiki)

Cube Out Trigger LWB Dashboard

Plan vs. Actual Headroom Deep Dive Dashboard

Plan vs. Actual Headroom Deep Dive v2 Dashboard

Routing Tools Website