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# Arrow Platform

Subsidies



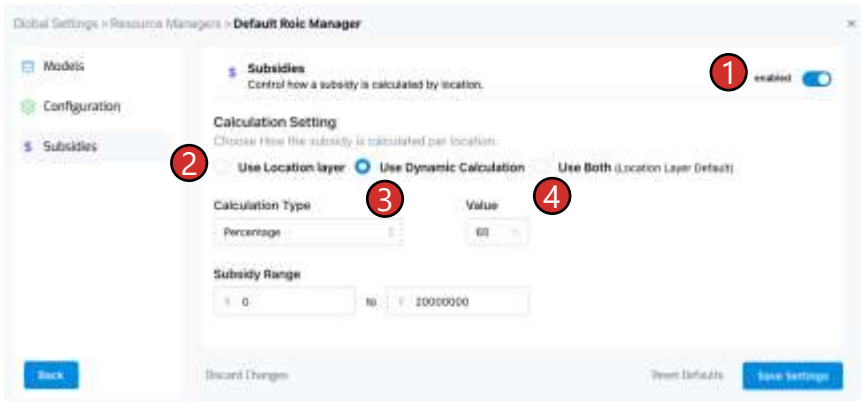
# Subsidy feature dynamically calculates subsidy amount and integrates the subsidy amount into Arrow's network planning module

## **Functionality:**

- Subsidy amounts can be defined by:
  - Fixed amount at individual location level
  - Dynamically based on calculation: IRR or %
  - A combination of both
- Dynamic subsidies are calculated by modeling cost to build, identifying the proportional cost to pass for every location in the network and then assigning a subsidy to locations marked as eligible for a subsidy, e.g.:
  - % of the cost
  - Portion of the cost required for the location to meet an IRR target
- Dynamic subsidy costs is recalibrated during the pruning phase (e.g., network build plans with an IRR, Budget or Coverage target) based on the routed locations
- Subsidy amount is displayed in:
  - Network Build plan output: Total Subsidy, subsidy at individual location, proportional cost at individual location
  - Network Analysis: Total Subsidy capital type

# Inputs: Subsidy levels can be defined with more granular control

## Roic Resource Manager



1. Applying subsidies is enabled through the ROIC Resource Manager
2. Use Location Layer: Subsidy input can be defined in the Locations data layer (see location data layer)
3. Use Dynamic Calculation and select calculation type to define subsidy:
  - Percentage Calculation Type applies a % value of the proportional cost required to reach locations marked as grant eligible
  - IRR Calculation Type applies the required proportional cost to achieve IRR value for locations marked as grant eligible
  - Fixed Calculation Type applies a fixed \$ amount to all locations marked as grant eligible
  - For Percentage or IRR Calculation Types you can also add a Subsidy Range amount
    - If the dynamic subsidy calculated for a location is below the minimum amount the minimum amount is used instead.
    - If the subsidy calculated for a location is above the maximum amount the maximum amount is used instead.
4. Use Both defaults first to the value identified in the location layer. If no value is present in the location layer the Dynamic Calculation is used for locations marked as grant eligible

## Location Data Layer

entity_category_id	lat	longitude	number_of_households	grant_eligible	plan_subsidy	
household	47.496124	-122.46256	1	1	0	0
household	47.50762	-122.46179	1	1	1	0
household	47.495741	-122.46296	1	1	1	\$500

- grant\_eligible defines if a location is eligible for a subsidy (0=Not eligible, 1 = eligible)
- plan\_subsidy defines the fixed \$ subsidy to be applied at individual location

# Outputs: Subsidy amounts can be viewed in plan outputs and reports

## Network Build: plan output

Output	
<b>Summary</b>	
NPV	\$735.9 K
IRR	15.9 %
<b>Total Subsidy</b>	<b>\$103.0 K</b>
Total Capex	\$815.7 K
Capex Per Premises	\$810.12

## Network Build: Routed Location List report

service_area_entity_cat	location_id	lat	longitude	number_of_connected	equipment	drop_cable	unit_cost	subsidy		
VSHNWAXB	household	4372513	47.456605	-122.46087	1	Fiber Distribi	790633	71.75	896.532878	0
VSHNWAXB	household	4372514	47.460691	-122.45129	1	Fiber Distribi	790454	150	657.521539	0
VSHNWAXB	household	4372515	47.459846	-122.45102	1	Fiber Distribi	790454	126.125	657.521539	0
VSHNWAXB	household	4372516	47.4601	-122.44828	1	Fiber Distribi	790421	47.5	1029.44945	0
VSHNWAXB	household	4372517	47.459226	-122.44649	1	Fiber Distribi	790419	114.125	662.253123	1000
VSHNWAXB	household	4372518	47.459225	-122.44575	1	Fiber Distribi	790479	103.25	927.510484	1000
VSHNWAXB	household	4372519	47.458651	-122.44832	1	Fiber Distribi	790664	73.125	890.655477	0

## Network Analysis: plan output



1. The Network Build plan output panel includes the Total Subsidy amount for the underlying service areas in the plan scope. The NPV and IRR calculations account for the subsidy amount. The Total Capex, Capex Per Premises and other capital costs presented in the output do not include the subsidy amount. The subsidy amount is used to offset those costs when calculating the NPV and IRR values.
2. The Network Analysis plan output panel includes a new set of Capital Type charts which display the Total Subsidy amounts at different Coverage, IRR, Incremental IRR and NPV levels for the selected service areas.
3. A new report is now available for Network Build plans with subsidies enabled. The report includes the unit\_cost (proportional cost to reach all routed locations in a Network Build plan) and the subsidy amount assigned to those locations marked as grant eligible.