

PRIMARY CONTRIBUTING ROUTE FOR GENERATED ROUTE

1. Contributing routes = same prefix, different subnet mask length.

```
[edit routing-options]
lab@srxd-2# show | display set relative
set static route 10.10.1.128/27 next-hop 10.210.10.143
set static route 10.10.1.128/26 next-hop 10.210.10.142
set static route 10.10.1.128/25 next-hop 10.210.10.141
set generate route 10.10.1.0/24

[edit routing-options]
lab@srxd-2# run show route

inet.0: 6 destinations, 6 routes (6 active, 0 holddown, 0 hidden)
+ = Active Route, - = Last Active, * = Both

10.10.1.0/24      *[Aggregate/130] 00:01:13
                  > to 10.210.10.141 via ge-0/0/0.0
10.10.1.128/25   *[Static/5] 00:00:09
                  > to 10.210.10.141 via ge-0/0/0.0
10.10.1.128/26   *[Static/5] 00:00:09
                  > to 10.210.10.142 via ge-0/0/0.0
10.10.1.128/27   *[Static/5] 00:00:09
                  > to 10.210.10.143 via ge-0/0/0.0
10.210.10.128/26 *[Direct/0] 00:13:50
                  > via ge-0/0/0.0
10.210.10.138/32 *[Local/0] 00:13:50
                  Local via ge-0/0/0.0
```

⇒ *Primary contributing route = contributing route with shortest subnet mask*

2. Added preference to one of the non-primary contributing routes.

```
[edit routing-options]
lab@srxd-2# set static route 10.10.1.128/27 preference 3

[edit routing-options]
lab@srxd-2# commit
commit complete

[edit routing-options]
lab@srxd-2# run show route

inet.0: 7 destinations, 7 routes (7 active, 0 holddown, 0 hidden)
+ = Active Route, - = Last Active, * = Both

10.10.1.0/24      *[Aggregate/130] 00:05:14
                  > to 10.210.10.143 via ge-0/0/0.0
10.10.1.0/25      *[Static/5] 00:03:05
                  > to 10.210.10.140 via ge-0/0/0.0
10.10.1.128/25   *[Static/5] 00:04:10
                  > to 10.210.10.141 via ge-0/0/0.0
10.10.1.128/26   *[Static/5] 00:04:10
                  > to 10.210.10.142 via ge-0/0/0.0
10.10.1.128/27   *[Static/3] 00:00:04
                  > to 10.210.10.143 via ge-0/0/0.0
10.210.10.128/26 *[Direct/0] 00:17:51
                  > via ge-0/0/0.0
10.210.10.138/32 *[Local/0] 00:17:51
                  Local via ge-0/0/0.0
```

⇒ *Primary contributing route = contributing route with lowest preference (regardless of mask length).*

3. Configured the same preference on a route with a shortest subnet mask

```
[edit routing-options]
lab@srxd-2# set static route 10.10.1.128/26 preference 3

[edit routing-options]
lab@srxd-2# commit
commit complete

[edit routing-options]
lab@srxd-2# run show route

inet.0: 7 destinations, 7 routes (7 active, 0 holddown, 0 hidden)
+ = Active Route, - = Last Active, * = Both

10.10.1.0/24      *[Aggregate/130] 00:06:33
                  > to 10.210.10.142 via ge-0/0/0.0
10.10.1.0/25      *[Static/5] 00:04:24
                  > to 10.210.10.140 via ge-0/0/0.0
10.10.1.128/25   *[Static/5] 00:05:29
                  > to 10.210.10.141 via ge-0/0/0.0
10.10.1.128/26   *[Static/3] 00:00:29
                  > to 10.210.10.142 via ge-0/0/0.0
10.10.1.128/27   *[Static/3] 00:01:25
                  > to 10.210.10.143 via ge-0/0/0.0
10.210.10.128/26 *[Direct/0] 00:19:10
                  > via ge-0/0/0.0
10.210.10.138/32 *[Local/0] 00:19:10
                  Local via ge-0/0/0.0
```

⇒ *Primary contributing route = contributing route with shortest subnet mask out of the two routes with lowest preference.*

4. Configured an additional next-hop for the current primary contributing route (lowest preference + shortest subnet mask)

```
[edit routing-options]
lab@srxD-2# show | display set relative
set static route 10.10.1.128/27 next-hop 10.210.10.143
set static route 10.10.1.128/27 preference 3
set static route 10.10.1.128/26 next-hop 10.210.10.142
set static route 10.10.1.128/26 next-hop 10.210.10.150
set static route 10.10.1.128/26 preference 3
set static route 10.10.1.128/25 next-hop 10.210.10.141
set static route 10.10.1.0/25 next-hop 10.210.10.140
set generate route 10.10.1.0/24

[edit routing-options]
lab@srxD-2#

[edit routing-options]
lab@srxD-2# run show route

inet.0: 7 destinations, 7 routes (7 active, 0 holddown, 0 hidden)
+ = Active Route, - = Last Active, * = Both

10.10.1.0/24      *[Aggregate/130] 00:10:57
                  > to 10.210.10.142 via ge-0/0/0.0
                  > to 10.210.10.150 via ge-0/0/0.0
10.10.1.0/25     *[Static/5] 00:08:48
                  > to 10.210.10.140 via ge-0/0/0.0
10.10.1.128/25  *[Static/5] 00:09:53
                  > to 10.210.10.141 via ge-0/0/0.0
10.10.1.128/26  *[Static/3] 00:00:29
                  > to 10.210.10.142 via ge-0/0/0.0
                  > to 10.210.10.150 via ge-0/0/0.0
10.10.1.128/27  *[Static/3] 00:05:47
                  > to 10.210.10.143 via ge-0/0/0.0
10.210.10.128/26 *[Direct/0] 00:23:34
                  > via ge-0/0/0.0
10.210.10.138/32 *[Local/0] 00:23:34
                  Local via ge-0/0/0.0
```

⇒ *Primary contributing route = contributing route with shortest subnet mask out of the two routes with lowest preference. The aggregate inherits the two next hops from the primary contributing route.*

5. Configured different metrics on the two next-hops of the current primary contributing route (lowest preference + shortest subnet mask)

```
[edit routing-options]
lab@srxD-2# show | display set relative
set static route 10.10.1.128/27 next-hop 10.210.10.143
set static route 10.10.1.128/27 preference 3
set static route 10.10.1.128/26 qualified-next-hop 10.210.10.150 metric 10
set static route 10.10.1.128/26 qualified-next-hop 10.210.10.142 metric 5
set static route 10.10.1.128/26 preference 3
set static route 10.10.1.128/25 next-hop 10.210.10.141
set static route 10.10.1.0/25 next-hop 10.210.10.140
set generate route 10.10.1.0/24

[edit routing-options]
lab@srxD-2# run show route

inet.0: 7 destinations, 8 routes (7 active, 0 holddown, 0 hidden)
+ = Active Route, - = Last Active, * = Both

10.10.1.0/24      *[Aggregate/130] 00:12:57
                  > to 10.210.10.142 via ge-0/0/0.0
10.10.1.0/25     *[Static/5] 00:10:48
                  > to 10.210.10.140 via ge-0/0/0.0
10.10.1.128/25  *[Static/5] 00:11:53
                  > to 10.210.10.141 via ge-0/0/0.0
10.10.1.128/26  *[Static/3] 00:00:27 metric 5
                  > to 10.210.10.142 via ge-0/0/0.0
                  [Static/3] 00:00:27 metric 10
                  > to 10.210.10.150 via ge-0/0/0.0
10.10.1.128/27  *[Static/3] 00:07:47
                  > to 10.210.10.143 via ge-0/0/0.0
10.210.10.128/26 *[Direct/0] 00:25:34
                  > via ge-0/0/0.0
10.210.10.138/32 *[Local/0] 00:25:34
                  Local via ge-0/0/0.0
```

⇒ *Primary contributing route = contributing route with shortest subnet mask out of the two routes with lowest preference. The aggregate inherits the next hop with the lowest metric.*