

Finally, note that although the configuration in Example 7-1 showed **area filter-list** commands with both **in** and **out** parameters for variety, the result of R2's **area filter-list... out** command is that does not flood the filtered LSAs to either area 34 or area 5. If the design goals specifically meant to filter only LSAs from being advertised from Area 0 into Area 34, the **area 34 filter-list... in** command should have been used on both routers.

Filtering OSPF Routes Added to the Routing Table

In some cases, an engineer may need to filter a route, but the area design does not work well compared to the filtering goals. For instance, if an area has 20 routers, and the engineer wants to filter the route so that five of the routers do not learn the route, Type 3 LSA filtering cannot be used. Type 3 LSA filtering can only filter the LSA from being flooded throughout the entire area.

The next feature discussed in this section, referenced as *filtering with distribute lists* (based the configuration command it uses), allows individual routers to filter OSPF routes from getting into their respective IP routing tables. This type of filtering injects logic between the SPF algorithm on a router and that same router's IP routing table. This feature does not change the LSDB flooding process, does not change the LSAs added by ABRs or ASBRs, and does not change the SPF algorithm's choice of best route. However, when SPF chooses routes to add to the IP routing table, if a router has been configured with a **distribute-list in** OSPF router subcommand, enabling this feature, that router then filters the routes before adding them to that router's IP routing table. Figure 7-4 shows the general idea.

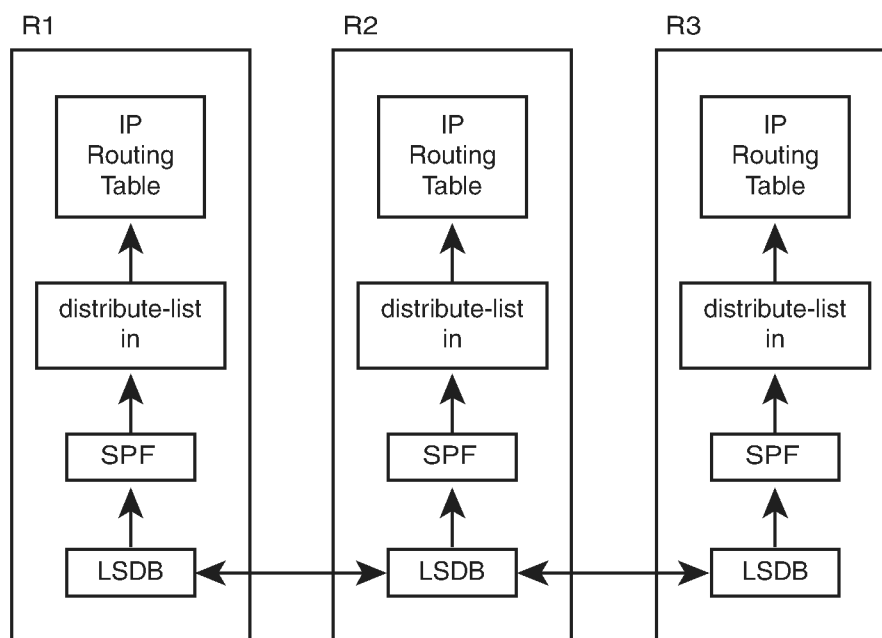


Figure 7-4 OSPF Filtering with Distribute Lists

In effect, you could prevent an OSPF route from being added to one or more routers' routing tables, but without risking causing routing loops, because the intra-area LSDB topol-