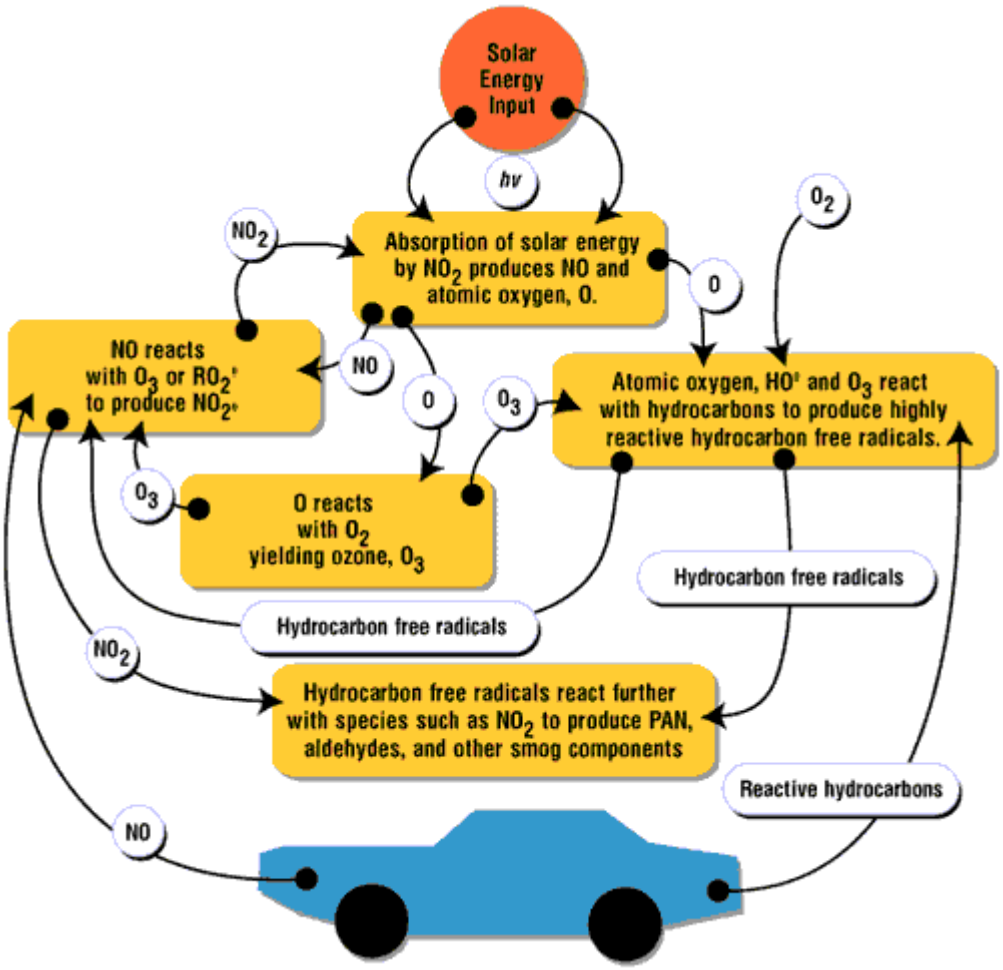
Summary of photochemical smog formation in urban airsheds



1) Nitrogen oxide (**NO**) generates oxygen atoms (via **NO_2** photolysis)

2) Oxygen atoms form hydroxyl radicals, **OH** (via **O_3** photolysis)

3) Hydrocarbons generate hydrocarbon radicals (**$R^{\cdot}$**) (via H-abstraction by **OH**)

4) Hydrocarbon radicals form hydrocarbon peroxyl radicals (**$RO_2^{\cdot}$**)

5) Hydrocarbon peroxy radicals form aldehydes (via **$RO^{\cdot}$** radicals)

6) Aldehydes form aldehyde peroxides, **$RC(O)O_2^{\cdot}$** (via H-abstraction by **OH** and addition of **O_2**)

7) Aldehyde peroxides (+ **NO_2**) form peroxyacylnitrates (PAN)

8) Aldehydes form aerosols