Supporting Information

HONO chemistry at a suburban site during the EXPLORE-YRD campaign in 2018: HONO formation mechanisms and impacts on O_3 production

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Table S1: Measured parameters and corresponding measurement techniques

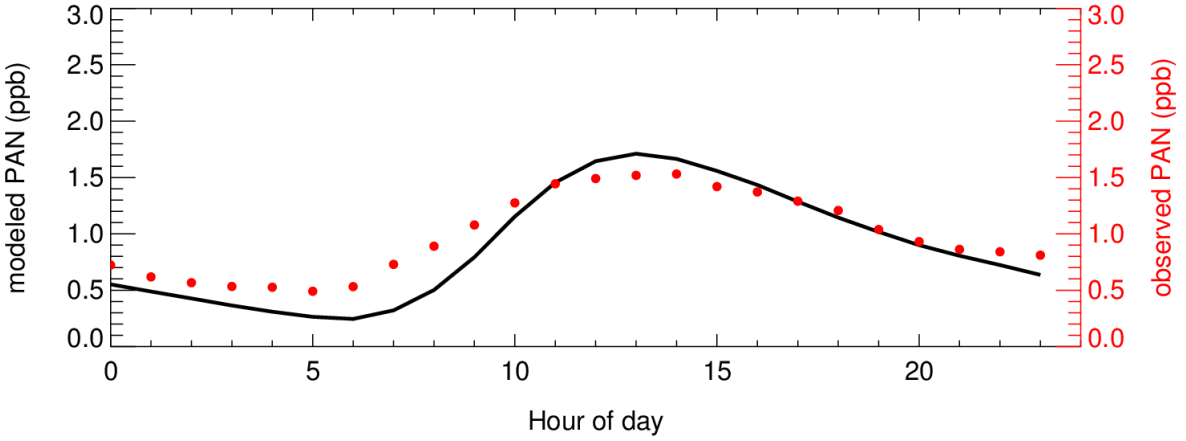
Figure S1: Averaged diurnal pattern of observed and modeled PAN if A first-order dilution loss term with a lifetime of 8 hours was incorporated.

Figure S2: Calculated HONO diurnal profile contributed by vehicle emissions.

Figure S3: The comparison of modeled OH concentration with and without observed HONO as a model constraint.

Table S1: Measured parameters and corresponding measurement techniques

Parameters	Limit of detection	Methods	Accuracy
HONO	5 ppt	LOPAP	±10%
OH	6×10^5 cm^{-3}	LIF	±10%
NO	60 ppt	Chemiluminescence	±20%
NO_2	0.3 ppb	Chemiluminescence+ Photolytic converter	±20%
O_3	0.5 ppb	UV photometry	±5%
CO	1 ppb	Infrared absorption	±1 ppb
SO_2	0.1 ppb	Pulsed UV fluorescence	±5%
S_a	14-700 nm	SMPS	±20%
HCHO	25 ppt	Hantzsch fluorimetry	±5%
VOCs	20-300 ppt	GC-FID/MS	±15%
$PM_{2.5}$	0.1 μg m^{-3}	TEOM	±5%
NH_4^+, SO_4^{2-}, NO_3^-, Cl^-	0.05 μg m^{-3}	GAC-IC	±20%



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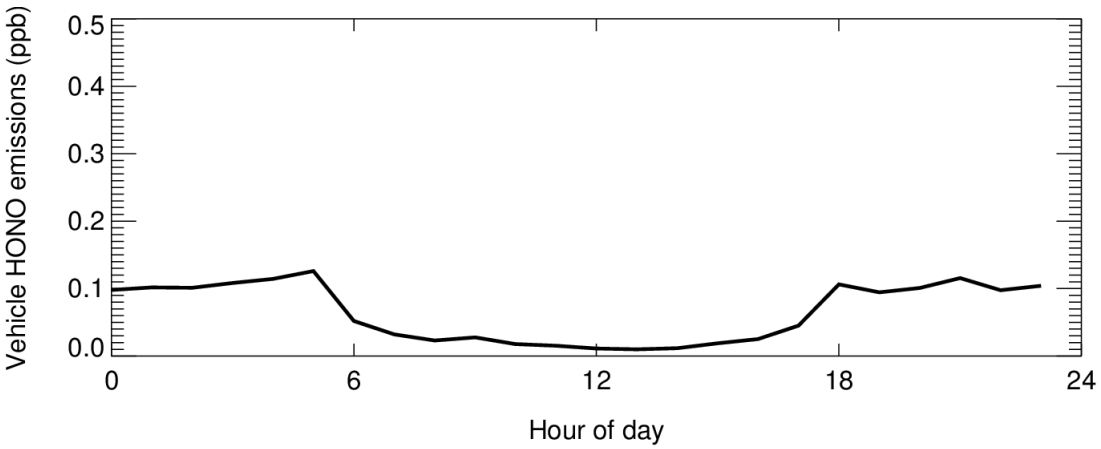

Figure S2: Calculated HONO diurnal profile contributed by vehicle emissions.

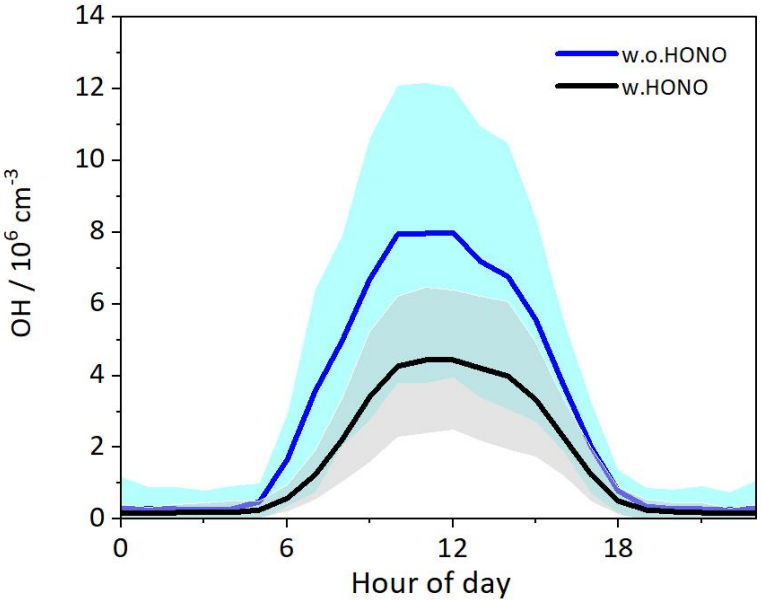

Figure S3: The comparison of modeled OH concentration with and without observed HONO as a model constraint.