Magnetic-field-driven superconductor-insulator transition in stripe-ordered La$_{1.48}$Nd$_{0.4}$Sr$_{0.12}$CuO$_{4}$	extsuperscript{1} PAUL BAITY, ZHENZHONG SHI, DRAGANA POPOVIĆ, Dept. of Phys. & Natl. High Magnetic Field Lab., Florida State Univ., T. SASAGAWA, Tokyo Inst. of Tech. — The effects of the magnetic field ($H$) in underdoped cuprates, the nature of the $H$-driven superconductor-insulator transition (SIT), and the interplay with charge ordering are some of the key questions in high-temperature superconductivity. A recent study of the $H$-driven SIT in highly underdoped ($T_{c}$ $\approx$ 4 K) La$_{2-x}$Sr$_{x}$CuO$_{4}$ (LSCO) revealed an intermediate phase, with two quantum critical points separating the superconductor and the insulator. While charge distribution in highly underdoped LSCO seems to be inhomogeneous, its sister compound La$_{2-x}$Nd$_{0.4}$Sr$_{x}$CuO$_{4}$ (LNSCO) with $x$ $= 0.12$ is known to have a charge-stripe order already in $H = 0$ at low enough temperatures ($T$). In order to address the above issues, we carry out detailed measurements of the in-plane and out-of-plane magnetoresistance with different $H$ orientations and over a wide range of $T$ on LNSCO single crystals with $x$ $= 0.12$ and $T_{c}$ $\approx$ 4 K. The results will provide insight into the universality of the $H$-driven SIT in cuprates with different types or, at least, varying degrees of charge order.

	extsuperscript{1}Supported by NSF DMR-1307075 and NHMFL via NSF DMR-1157490 and the State of Florida.